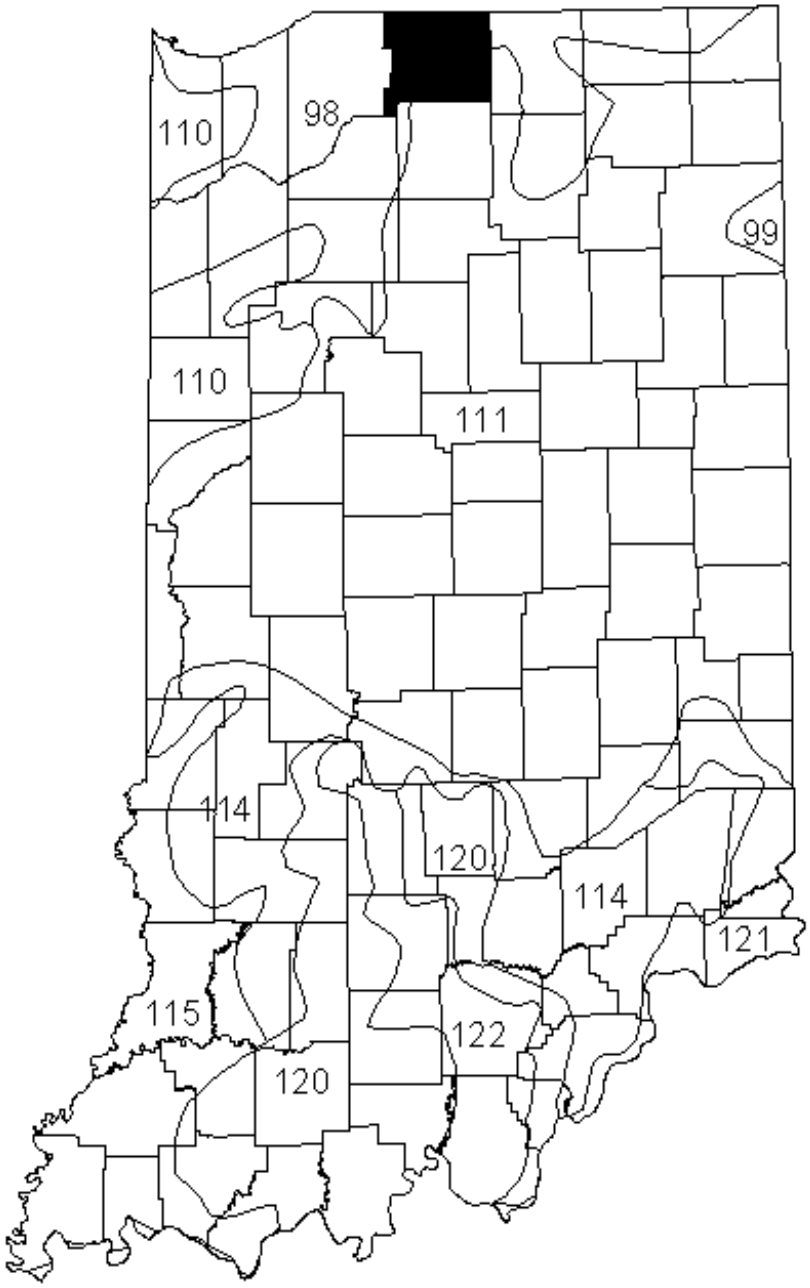
United States Department of Agriculture

Natural Resources Conservation Service

East Central Glaciated Regional MLRA Soil Survey Office Indianapolis, IN

Classification and Correlation of Soils in St. Joseph County, Indiana



December 2001

CLASSIFICATION AND CORRELATION
OF SOILS IN ST. JOSEPH COUNTY, INDIANA
TABLE OF CONTENTS

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CLASSIFICATION AND CORRELATION OF THE SOILS OF ST. JOSEPH COUNTY, INDIANA

(FIPS 141)

A SUBSET OF MAJOR LAND RESOURCE AREAS (MLRA) 98 and 111

DECEMBER 2001

This correlation was prepared by Shane L. McBurnett, MLRA Project Leader (MLRAPL), Plymouth, IN; Charles Love, Soil Data Quality Specialist (SDQS) MLRA Region 11 team, Indianapolis, IN; Rex A. Brock, Subset Project Leader, Plymouth, Indiana; Richard W. Neilson, Resource Soil Scientist, Plymouth, Indiana; and David Gehring, Soil Scientist, Plymouth, Indiana. It was prepared as part of the update of the Soil Survey of St. Joseph County, a subset of MLRA's 98 and 111. This correlation is based on transect data, pedon descriptions, laboratory data, field notes, and field soil maps of St. Joseph County. This correlation is supported by the National Soil Information System (NASIS) Legend and the NASIS Data Mapunits.

HEADNOTE FOR DETAILED SOIL SURVEY LEGEND

This update of St. Joseph County, Indiana is an update subset of the Soil Survey of MLRA's 98 and 111. Map units, the representative map unit symbols, and special and conventional symbols are consistent between subsets that are being updated. Map unit symbols consist of a combination of letters and numbers. The initial letters represent the kind of soil. A capital letter following the first three letters indicates the class of slope. A second capital letter indicates the flooding frequency and duration. The letter K indicates the soil is occasionally flooded for brief duration, the letter I indicates the soil is frequently flooded for long duration, and the letter Q indicates the soil is rarely flooded. A final number of 2 following the slope letter indicates that the soil is moderately eroded, and a number 3 indicates that the soil is severely eroded. Absence of a number following the slope class indicates that the soil is slightly eroded or non-eroded.

SOIL CORRELATION OF
ST. JOSEPH COUNTY, INDIANA
DECEMBER 2001

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Acid Outwash Plain Approved map unit name
Ad	Adrian muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
AeA	Alida loam, 0 to 2 percent slopes	AxvA	Auten loam, 0 to 1 percent slopes
		UdzA	Urban land-Auten complex, 0 to 1 percent slopes
CoA	Coupee silt loam, 0 to 2 percent slopes	CrrA	Coupee silt loam, 0 to 1 percent slopes
		UfmA	Urban land-Coupee complex, 0 to 1 percent slopes
Gf	Gilford sandy loam	GczA	Gilford sandy loam, 0 to 1 percent slopes
GP	Gravel Pits	Pmg	Pits, gravel
		Pxo	Psamments
		Uam	Udorthents, loamy
Ho	Houghton muck, drained	HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
Ma	Made land	Pxo	Psamments
		Uam	Udorthents, loamy
Mc	Marsh	AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		W	Water, unclassified
OsA	Oshtemo sandy loam, 0 to 2 percent slopes	TmpA	Tracy sandy loam, 0 to 1 percent slopes
		UmwA	Urban land-Tracy complex, 0 to 1 percent slopes
OsB	Oshtemo sandy loam, 2 to 6 percent slopes	TmpB	Tracy sandy loam, 1 to 5 percent slopes
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
		UmwB	Urban land-Tracy complex, 1 to 5 percent slopes
OsC2	Oshtemo sandy loam, 6 to 12 percent slopes, eroded	TmpC2	Tracy sandy loam, 5 to 10 percent slopes, eroded
		RopC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Acid Outwash Plain Approved map unit name
OsC2	Oshtemo sandy loam, 6 to 12 percent slopes, eroded	UmwC	Urban land-Tracy complex, 5 to 10 percent slopes
OsD	Oshtemo sandy loam, 12 to 18 percent slopes	TmpD	Tracy sandy loam, 10 to 18 percent slopes
		UmwD	Urban land-Tracy complex, 10 to 18 percent slopes
Qu	Quinn loam	QuiA	Quinn loam, 0 to 1 percent slopes
Re	Rensselaer loam	ReyA	Rensselaer loam, 0 to 1 percent slopes
TrA	Tracy sandy loam, 0 to 2 percent slopes	TmpA	Tracy sandy loam, 0 to 1 percent slopes
		UmwA	Urban land-Tracy complex, 0 to 1 percent slopes
TrB	Tracy sandy loam, 2 to 6 percent slopes	TmpB	Tracy sandy loam, 1 to 5 percent slopes
		UmwB	Urban land-Tracy complex, 1 to 5 percent slopes
TrC2	Tracy sandy loam, 6 to 12 percent slopes, eroded	TmpC2	Tracy sandy loam, 5 to 10 percent slopes, eroded
		UmwC	Urban land-Tracy complex, 5 to 10 percent slopes
Tx	Troxel silt loam	TnwA	Troxel silt loam, 0 to 1 percent slopes
		UmxA	Urban land-Troxel complex, 0 to 1 percent slopes
TyA	Tyner loamy sand, 0 to 6 percent slopes	UgvA	Urban land-Tyner complex, 0 to 1 percent slopes
TyC	Tyner loamy sand, 6 to 12 percent slopes	TxuC	Tyner loamy sand, 5 to 10 percent slopes
		UgvC	Urban land-Tyner complex, 5 to 10 percent slopes
TyD	Tyner loamy sand, 12 to 18 percent slopes	UmwD	Urban land-Tyner complex, 10 to 18 percent slopes
W	Water	W	Water, unclassified
Ws	Washtenaw silt loam	SnlA	Southwest silt loam, 0 to 1 percent slopes
XXX	Unnamed polygons	Pmg	Pits, gravel

"XXX" Field Symbol = Unlabeled ploygons in the 1977 soil survey publication

See the "Landform Boundary Map" for the distribution of the Acid Outwash Plain.

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Edwardsburg Outwash Plain Approved map unit name
AeA	Alida loam, 0 to 2 percent slopes	UdzA	Urban land-Auten complex, 0 to 1 percent slopes
Bd	Brady sandy loam	UdkA	Urban land-Brady complex, 0 to 1 percent slopes
BeA	Brems fine sand, 0 to 2 percent slopes	UewA	Urban land-Brems-Morocco complex, 0 to 1 percent slopes
CoA	Coupee silt loam, 0 to 2 percent slopes	SesA	Schoolcraft loam, 0 to 1 percent slopes
		UmpA	Urban land-Schoolcraft complex, 0 to 1 percent slopes
EsA	Elston sandy loam, 0 to 2 percent slopes	EmeA	Elston sandy loam, 0 to 1 percent slopes
		UftA	Urban land-Elston complex, 0 to1 percent slopes
FsA	Fox sandy loam, 0 to 2 percent slopes	UdeA	Urban land-Bainter complex, 0 to 1 percent slopes
FsB	Fox sandy loam, 2 to 6 percent slopes	BaaB	Bainter sandy loam, 1 to 4 percent slopes
		UdeB	Urban land-Bainter complex, 1 to 4 percent slopes
GP	Gravel Pits	Pmg	Pits, gravel
OsA	Oshtemo sandy loam, 0 to 2 percent slopes	BaaA	Bainter sandy loam, 0 to 1 percent slopes
		UdeA	Urban land-Bainter complex, 0 to 1 percent slopes
OsB	Oshtemo sandy loam, 2 to 6 percent slopes	BaaB	Bainter sandy loam, 1 to 4 percent slopes
		UdeB	Urban land-Bainter complex, 1 to 4 percent slopes
OsC2	Oshtemo sandy loam, 6 to 12 percent slopes, eroded	BaaB	Bainter sandy loam, 1 to 4 percent slopes
		BaaC2	Bainter sandy loam, 4 to 10 percent slopes, eroded
		UdeC	Urban land-Bainter complex, 4 to 10 percent slopes
Re	Rensselaer loam	UgrA	Urban land-Rensselaer complex, 0 to 1 percent slopes
TrA	Tracy sandy loam, 0 to 2 percent slopes	BaaA	Bainter sandy loam, 0 to 1 percent slopes
		UdeA	Urban land-Bainter complex, 0 to 1 percent slopes
TrB	Tracy sandy loam, 2 to 6 percent slopes	BaaB	Bainter sandy loam, 1 to 4 percent slopes
		UdeB	Urban land-Bainter complex, 1 to 4 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Edwardsburg Outwash Plain Approved map unit name
TrC2	Tracy sandy loam, 6 to 12 percent slopes, eroded	BaaC2	Bainter sandy loam, 4 to 10 percent slopes, eroded
Tx	Troxel silt loam	TnwA	Troxel silt loam, 0 to 1 percent slopes
		UmxA	Urban land-Troxel complex, 0 to 1 percent slopes
TyA	Tyner loamy sand, 0 to 6 percent slopes	TxuA	Tyner loamy sand, 0 to 1 percent slopes
		UgvA	Urban land-Tyner complex, 0 to 1 percent slopes
TyC	Tyner loamy sand, 6 to 12 percent slopes	TxuC	Tyner loamy sand, 5 to 10 percent slopes
		UgvC	Urban land-Tyner complex, 5 to 10 percent slopes
W	Water	W	Water, unclassified
Ws	Washtenaw silt loam	UmuA	Urban land-Southwest complex, 0 to 1 percent slopes

See the "Landform Boundary Map" for the distribution of the Edwardsburg Outwash Plain.

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Ground Moraine Approved map unit name
Ad	Adrian muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		HfbAN	Henrietta muck, drained, 0 to 1 percent slopes
		MouA	Milford silty clay loam, 0 to 1 percent slopes
		PaaAN	Palms muck, drained, 0 to 1 percent slopes
AeA	Alida loam, 0 to 2 percent slopes	BbmA	Baugo silt loam, 0 to 1 percent slopes
Am	Alluvial land	AahAK	Abscota loamy sand, 0 to 2 percent slopes, occasionally flooded, brief duration
		JaaAK	Jamestown silt loam, 0 to 1 percent slopes, occasionally flooded, brief duration
		WcnAI	Waterford loam, 0 to 2 percent slopes, frequently flooded, long duration
Au	Aubbeenaubbee sandy loam	SdzA	Selfridge-Crosier complex, 0 to 1 percent slopes
BbA	Blount silt loam, 0 to 2 percent slopes	CvdA	Crosier loam, 0 to 1 percent slopes
Bd	Brady sandy loam	BshA	Brady sandy loam, 0 to 1 percent slopes
BeA	Brems fine sand, 0 to 2 percent slopes	SdzaB	Selfridge-Brems loamy sands, 1 to 4 percent slopes
Br	Brookston silty clay loam	BuuA	Brookston loam, 0 to 1 percent slopes
		BshA	Brady sandy loam, 0 to 1 percent slopes
		CvdA	Crosier loam, 0 to 1 percent slopes
		CvdB	Crosier loam, 1 to 4 percent slopes
		MmbC2	Miami loam, 5 to 10 percent slopes, eroded
		PaaAN	Palms muck, drained, 0 to 1 percent slopes
		ReyA	Rensselaer loam, 0 to 1 percent slopes
ChA	Chelsea fine sand, 0 to 5 percent slopes	SdzaB	Selfridge-Brems loamy sands, 1 to 4 percent slopes
ChC	Chelsea fine sand, 5 to 10 percent slopes	SdzaB	Selfridge-Brems loamy sands, 1 to 4 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Ground Moraine Approved map unit name
CtA	Crosier loam, 0 to 2 percent slopes	BuuA	Brookston loam, 0 to 1 percent slopes
		CvdA	Crosier loam, 0 to 1 percent slopes
		CvdB	Crosier loam, 1 to 4 percent slopes
		MmbC2	Miami loam, 5 to 10 percent slopes, eroded
CtB	Crosier loam, 2 to 4 percent slopes	CvdA	Crosier loam, 0 to 1 percent slopes
		CvdB	Crosier loam, 1 to 4 percent slopes
		WoaC2	Williamstown loam, 5 to 10 percent slopes, eroded
De	Del Rey silt loam	BbmA	Baugo silt loam, 0 to 1 percent slopes
		BuuA	Brookston loam, 0 to 1 percent slopes
		CvdA	Crosier loam, 0 to 1 percent slopes
		DcrA	Del Rey silty clay loam, 0 to 1 percent slopes
		WobB	Williamstown-Crosier loams, 1 to 5 percent slopes
Ed	Edwards muck	EchAN	Edwards muck, drained, 0 to 1 percent slopes
Gf	Gilford sandy loam	GczA	Gilford sandy loam, 0 to 1 percent slopes
HdA	Hillsdale sandy loam, 0 to 2 percent slopes	BshA	Brady sandy loam, 0 to 1 percent slopes
		MvkA	Morocco loamy sand, 0 to 1 percent slopes
HdB	Hillsdale sandy loam, 2 to 6 percent slopes	CwkB	Crumstown fine sandy loam, 1 to 5 percent slopes
		WujB	Williamstown-Moon complex, 1 to 5 percent slopes
HeC2	Hillsdale complex, 6 to 12 percent slopes, eroded	RopC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded
HeD2	Hillsdale complex, 12 to 18 percent slopes, eroded	RoqD2	Riddles-Metea complex, 10 to 18 percent slopes, eroded
Ho	Houghton muck, drained	AatAN	Ackerman muck, drained, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		MvhAN	Moston muck, drained, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Ground Moraine Approved map unit name
Ho	Houghton muck, drained	MwzAN	Muskego muck, drained, 0 to 1 percent slopes
		MwzAU	Muskego muck, undrained, 0 to 1 percent slopes
		PaaAN	Palms muck, drained, 0 to 1 percent slopes
La	Landes loam	JaaAK	Jamestown silt loam, 0 to 1 percent slopes, occasionally flooded, brief duration
Ma	Made land	Usl	Udorthents, rubbish
Mc	Marsh	HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		MouA	Milford silty clay loam, 0 to 1 percent slopes
		PaaAU	Palms muck, undrained, 0 to 1 percent slopes
		SdzA	Selfridge-Crosier complex, 0 to 1 percent slopes
		W	Water, unclassified
		WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
MeA	Martinsville loam, 0 to 2 percent slopes	WoaA	Williamstown loam, 0 to 1 percent slopes
MeB2	Martinsville loam, 2 to 6 percent slopes, eroded	WoaB2	Williamstown-Crosier loams, 1 to 5 percent slopes
MeC2	Martinsville loam, 6 to 12 percent slopes, eroded	MmbC2	Miami loam, 5 to 10 percent slopes, eroded
Mf	Maumee loamy fine sand	MgcA	Maumee loamy sand, 0 to 1 percent slopes
Mg	Maumee mucky loamy fine sand	MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
MkB	Metea loamy fine sand, 4 to 10 percent slopes	WujB	Williamstown-Moon complex, 1 to 5 percent slopes
MmB	Miami loam, 2 to 6 percent slopes	WobB	Williamstown-Crosier loams, 1 to 5 percent slopes
		CvdB	Crosier loam, 1 to 4 percent slopes
MmC2	Miami loam, 6 to 12 percent slopes, eroded	MmbC2	Miami loam, 5 to 10 percent slopes, eroded
MoC3	Miami clay loam, 6 to 12 percent slopes, severely eroded	MmdC3	Miami clay loam, 5 to 10 percent slopes, severely eroded
		RoqC2	Riddles-Metea complex, 5 to 10 percent slopes, eroded
MoD3	Miami clay loam, 12 to 18 percent slopes, severely eroded	MmdD3	Miami clay loam, 10 to 18 percent slopes, severely eroded

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Ground Moraine Approved map unit name
Mp	Milford silty clay loam	BuuA	Brookston loam, 0 to 1 percent slopes
		CvdA	Crosier loam, 0 to 1 percent slopes
		MouA	Milford silty clay loam, 0 to 1 percent slopes
		SnlA	Southwest silt loam, 0 to 1 percent slopes
MrB2	Morley silt loam, 2 to 6 percent slopes, eroded	RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
OsA	Oshtemo sandy loam, 0 to 2 percent slopes	CwkA	Crumstown fine sandy loam, 0 to 1 percent slopes
OsB	Oshtemo sandy loam, 2 to 6 percent slopes	CwkB	Crumstown fine sandy loam, 1 to 5 percent slopes
OsC2	Oshtemo sandy loam, 6 to 12 percent slopes, eroded	OlcC2	Oshtemo sandy loam, 5 to 10 percent slopes, eroded
Pa	Palms muck, drained	HfbAN	Henrietta muck, drained, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		MvhAN	Moston muck, drained, 0 to 1 percent slopes
		MwzAN	Muskego muck, drained, 0 to 1 percent slopes
		PaaAN	Palms muck, drained, 0 to 1 percent slopes
		PaaAU	Palms muck, undrained, 0 to 1 percent slopes
		RenA	Rensselaer mucky loam, 0 to 1 percent slopes
Qu	Quinn loam	Bsha	Brady sandy loam, 0 to 1 percent slopes
Re	Rensselaer loam	MouA	Milford silty clay loam, 0 to 1 percent slopes
		ReyA	Rensselaer loam, 0 to 1 percent slopes
Rm	Rensselaer mucky loam	RenA	Rensselaer mucky loam, 0 to 1 percent slopes
RtA	Riddles loam, 0 to 2 percent slopes	CvdA	Crosier loam, 0 to 1 percent slopes
		RopA	Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes
RtB	Riddles loam, 2 to 6 percent slopes	CvdB	Crosier loam, 1 to 4 percent slopes
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Ground Moraine Approved map unit name
RtC2	Riddles loam, 6 to 12 percent slopes, eroded	CvdB	Crosier loam, 1 to 4 percent slopes
		RoqC2	Riddles-Metea complex, 5 to 10 percent slopes, eroded
RtD2	Riddles loam, 12 to 18 percent slopes, eroded	RoqD2	Riddles-Metea complex, 10 to 18 percent slopes, eroded
TrA	Tracy sandy loam, 0 to 2 percent slopes	CwkA	Crumstown fine sandy loam, 0 to 1 percent slopes
TrB	Tracy sandy loam, 2 to 6 percent slopes	CwkB	Crumstown fine sandy loam, 1 to 5 percent slopes
TyD	Tyner loamy sand, 12 to 18 percent slopes	MouA	Milford silty clay loam, 0 to 1 percent slopes
W	Water	W	Water, unclassified
Wk	Wallkill silt loam	WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
Ws	Washtenaw silt loam	CvdA	Crosier loam, 0 to 1 percent slopes
		SnlA	Southwest silt loam, 0 to 1 percent slopes
Wt	Whitaker loam	BbmA	Baugo silt loam, 0 to 1 percent slopes
XXX	Unnamed polygons	CvdA	Crosier loam, 0 to 1 percent slopes

"XXX" Field Symbol = Unlabeled ploygons in the 1977 soil survey publication

See the "Landform Boundary Map" for the distribution of the Ground Moraine.

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kame Esker Approved map unit name
Ad	Adrian muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		PxlA	Psammaquents
AeA	Alida loam, 0 to 2 percent slopes	AxvA	Auten loam, 0 to 1 percent slopes
		UdzA	Urban land-Auten complex, 0 to 1 percent slopes
Am	Alluvial land	AahAK	Abscota loamy sand, 0 to 2 percent slopes, occasionally flooded, brief duration
		AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		CmbAI	Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration
Au	Aubbeenaubbee sandy loam	SdzA	Selfridge-Crosier complex, 0 to 1 percent slopes
Bd	Brady sandy loam	BshA	Brady sandy loam, 0 to 1 percent slopes
		UdkA	Urban land-Brady complex, 0 to 1 percent slopes
BeA	Brems fine sand, 0 to 2 percent slopes	BsxA	Brems-Morocco loamy sands, 0 to 1 percent slopes
Br	Brookston silty clay loam	BuuA	Brookston loam, 0 to 1 percent slopes
ChA	Chelsea fine sand, 0 to 5 percent slopes	CnbA	Coloma sand, 0 to 2 percent slopes
		UfhA	Urban land-Coloma complex, 0 to 2 percent slopes
ChC	Chelsea fine sand, 5 to 10 percent slopes	CnbC	Coloma sand, 5 to 10 percent slopes
		UfhC	Urban land-Coloma complex, 5 to 10 percent slopes
CoA	Coupee silt loam, 0 to 2 percent slopes	CrrA	Coupee silt loam, 0 to 1 percent slopes
		TnwA	Troxel silt loam, 0 to 1 percent slopes
		UfmA	Urban land-Coupee complex, 0 to 1 percent slopes
CtA	Crosier loam, 0 to 2 percent slopes	CvdA	Crosier loam, 0 to 1 percent slopes
		UeaA	Urban land-Crosier complex, 0 to 3 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kame Esker Approved map unit name
CtB	Crosier loam, 2 to 4 percent slopes	CvdB	Crosier loam, 1 to 4 percent slopes
De	Del Rey silt loam	DcrA	Del Rey silty clay loam, 0 to 1 percent slopes
		UfrA	Urban land-Del Rey complex, 0 to 1 percent slopes
Ed	Edwards muck	EchAU	Edwards muck, undrained, 0 to 1 percent slopes
EsA	Elston sandy loam, 0 to 2 percent slopes	EmeA	Elston sandy loam, 0 to 1 percent slopes
		SesA	Schoolcraft loam, 0 to 1 percent slopes
FsB	Fox sandy loam, 2 to 6 percent slopes	TmpB	Tracy sandy loam, 1 to 5 percent slopes
		UmwB	Urban land-Tracy complex, 1 to 5 percent slopes
Gf	Gilford sandy loam	GczA	Gilford sandy loam, 0 to 1 percent slopes
		UeqA	Urban land-Gilford complex, 0 to 1 percent slopes
GP	Gravel Pits	Pmg	Pits, Gravel
		Pxo	Psamments
HdA	Hillsdale sandy loam, 0 to 2 percent slopes	HkkA	Hillsdale sandy loam, 0 to 1 percent slopes
		UhmA	Urban land-Hillsdale complex, 0 to 1 percent slopes
HdB	Hillsdale sandy loam, 2 to 6 percent slopes	HkkB	Hillsdale sandy loam, 1 to 5 percent slopes
		UhmB	Urban land-Hillsdale complex, 1 to 5 percent slopes
HeC2	Hillsdale complex, 6 to 12 percent slopes, eroded	HkpC2	Hillsdale-Tracy sandy loams, 5 to 10 percent slopes, eroded
		UhpC	Urban land-Hillsdale-Tracy complex, 5 to 10 percent slopes
HeD2	Hillsdale complex, 12 to 18 percent slopes, eroded	CnbD	Coloma sand, 10 to 18 percent slopes
		HkpD2	Hillsdale-Tracy sandy loams, 10 to 18 percent slopes, eroded
		UhpD	Urban land-Hillsdale-Tracy complex, 10 to 18 percent slopes
Hm	Houghton muck	HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
Ho	Houghton muck, drained	HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kame Esker Approved map unit name
Ho	Houghton muck, drained	W	Water, unclassified
La	Landes loam	AahAK	Abscota loamy sand, 0 to 2 percent slopes, occasionally flooded, brief duration
Ma	Made land	PxlA	Psammaquents
		Pxo	Psamments
		Uam	Udorthents, loamy
Mc	Marsh	AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		ApuAN	Antung muck, drained, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		MvhAU	Moston muck, undrained, 0 to 1 percent slopes
		MwzAU	Muskego muck, undrained, 0 to 1 percent slopes
		PaaAU	Palms muck, undrained, 0 to 1 percent slopes
		W	Water, unclassified
		WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
MeA	Martinsville loam, 0 to 2 percent slopes	MfaA	Martinsville loam, 0 to 1 percent slopes
		UhwA	Urban land-Martinsville complex, 0 to 1 percent slopes
MeB2	Martinsville loam, 2 to 6 percent slopes, eroded	MfaB2	Martinsville loam, 1 to 5 percent slopes, eroded
		UhwB	Urban land-Martinsville complex, 1 to 5 percent slopes
MeC2	Martinsville loam, 6 to 12 percent slopes, eroded	MfaC2	Martinsville loam, 5 to 10 percent slopes, eroded
		UhwC	Urban land-Martinsville complex, 5 to 10 percent slopes
Mf	Maumee loamy fine sand	MgcA	Maumee loamy sand, 0 to 1 percent slopes
Mg	Maumee mucky loamy fine sand	MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
MkB	Metea loamy fine sand, 4 to 10 percent slopes	RoqB	Riddles-Metea complex, 1 to 5 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kame Esker Approved map unit name
MkB	Metea loamy fine sand, 4 to 10 percent slopes	UmfB	Urban land-Riddles-Metea complex, 1 to 5 percent slopes
MoD3	Miami clay loam, 12 to 18 percent slopes, severely eroded	MmdD3	Miami clay loam, 10 to 18 percent slopes, severely eroded
Mp	Milford silty clay loam	MouA	Milford silty clay loam, 0 to 1 percent slopes
OsA	Oshtemo sandy loam, 0 to 2 percent slopes	TmpA	Tracy sandy loam, 0 to 1 percent slopes
		UmwA	Urban land-Tracy complex, 0 to 1 percent slopes
OsB	Oshtemo sandy loam, 2 to 6 percent slopes	TmpB	Tracy sandy loam, 1 to 5 percent slopes
		UmwB	Urban land-Tracy complex, 1 to 5 percent slopes
OsC2	Oshtemo sandy loam, 6 to 12 percent slopes, eroded	TmpC2	Tracy sandy loam, 5 to 10 percent slopes, eroded
		UmwC	Urban land-Tracy complex, 5 to 10 percent slopes
OsD	Oshtemo sandy loam, 12 to 18 percent slopes	TmpD	Tracy sandy loam, 10 to 18 percent slopes
		UmwD	Urban land-Tracy complex, 10 to 18 percent slopes
Pa	Palms muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		PaaAN	Palms muck, drained, 0 to 1 percent slopes
		PaaAU	Palms muck, undrained, 0 to 1 percent slopes
Qu	Quinn loam	GczA	Gilford sandy loam, 0 to 1 percent slopes
		QujA	Quinn sandy loam, 0 to 1 percent slopes
Re	Rensselaer loam	AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		ReyA	Rensselaer loam, 0 to 1 percent slopes
		UgrA	Urban land-Rensselaer complex, 0 to 1 percent slopes
Rm	Rensselaer mucky loam	RenA	Rensselaer mucky loam, 0 to 1 percent slopes
RtA	Riddles loam, 0 to 2 percent slopes	RopA	Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes
		UgsA	Urban land-Riddles-Oshtemo complex, 0 to 1 percent slopes
RtB	Riddles loam, 2 to 6 percent slopes	RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kame Esker Approved map unit name
RtB	Riddles loam, 2 to 6 percent slopes	UgsB	Urban land-Riddles-Oshtemo complex, 1 to 5 percent slopes
RtC2	Riddles loam, 6 to 12 percent slopes, eroded	RoqC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded
		UmfC	Urban land-Riddles-Metea complex, 5 to 10 percent slopes
RtD2	Riddles loam, 12 to 18 percent slopes, eroded	RoqD2	Riddles-Oshtemo fine sandy loams, 10 to 18 percent slopes, eroded
		UmfD	Urban land-Riddles-Metea complex, 10 to 18 percent slopes
TrA	Tracy sandy loam, 0 to 2 percent slopes	TmpA	Tracy sandy loam, 0 to 1 percent slopes
		UmwA	Urban land-Tracy complex, 0 to 1 percent slopes
TrB	Tracy sandy loam, 2 to 6 percent slopes	TmpB	Tracy sandy loam, 1 to 5 percent slopes
		UmwB	Urban land-Tracy complex, 1 to 5 percent slopes
TrC2	Tracy sandy loam, 6 to 12 percent slopes, eroded	OlcC2	Oshtemo sandy loam, 5 to 10 percent slopes, eroded
		TmpC2	Tracy sandy loam, 5 to 10 percent slopes, eroded
		UmwC	Urban land-Tracy complex, 5 to 10 percent slopes
Tx	Troxel silt loam	TnwA	Troxel silt loam, 0 to 1 percent slopes
		UmxA	Urban land-Troxel complex, 0 to 1 percent slopes
TyA	Tyner loamy sand, 0 to 6 percent slopes	TxuB	Tyner loamy sand, 1 to 5 percent slopes
		UgvA	Urban land-Tyner complex, 0 to 1 percent slopes
TyC	Tyner loamy sand, 6 to 12 percent slopes	TxuC	Tyner loamy sand, 5 to 10 percent slopes
		UgvC	Urban land-Tyner complex, 5 to 10 percent slopes
TyD	Tyner loamy sand, 12 to 18 percent slopes	TxuD	Tyner loamy sand, 10 to 18 percent slopes
		UgvD	Urban land-Tyner complex, 10 to 18 percent slopes
W	Water	AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		W	Water, unclassified
Wk	Wallkill silt loam	UntA	Urban land-Wunabuna complex, 0 to 1 percent slopes
		WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kame Esker Approved map unit name
Ws	Washtenaw silt loam	SnlA	Southwest silt loam, 0 to 1 percent slopes
		UmuA	Urban land-Southwest complex, 0 to 1 percent slopes
Wt	Whitaker loam	UnoA	Urban land-Whitaker complex, 0 to 1 percent slopes
		WtbA	Whitaker loam, 0 to 1 percent slopes
XXX	Unnamed polygons	PxlA	Psammaquents
		Pxo	Psamments

"XXX" Field Symbol = Unlabeled ploygons in the 1977 soil survey publication

See the "Landform Boundary Map" for the distribution of the Kame Esker.

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kankakee Outwash Plain Approved map unit name
Ad	Adrian muck, drained	AatAN	Ackerman muck, drained, 0 to 1 percent slopes
		AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		ApuAN	Antung muck, drained, 0 to 1 percent slopes
		EchAN	Edwards muck, drained, 0 to 1 percent slopes
		EcrAN	Edselton muck, drained, 0 to 1 percent slopes
		HfbAN	Henrietta muck, drained, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		MfrAN	Madaus muck, drained, 0 to 1 percent slopes
		MgdAN	Martisco muck, drained, 0 to 1 percent slopes
		MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
		MvhAN	Moston muck, drained, 0 to 1 percent slopes
		MwzAN	Muskego muck, drained, 0 to 1 percent slopes
		RenA	Rensselaer mucky loam, 0 to 1 percent slopes
		UkaA	Urban land-Maumee complex, 0 to 1 percent slopes
		WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
AeA	Alida loam, 0 to 2 percent slopes	AxvA	Auten loam, 0 to 1 percent slopes
Am	Alluvial land	CmbAI	Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration
Bd	Brady sandy loam	BshA	Brady sandy loam, 0 to 1 percent slopes
		UdkA	Urban land-Brady complex, 0 to 1 percent slopes
BeA	Brems fine sand, 0 to 2 percent slopes	BteA	Brems loamy sand, 0 to 1 percent slopes
ChA	Chelsea fine sand, 0 to 5 percent slopes	CnbA	Coloma sand, 0 to 2 percent slopes
		UfhA	Urban land-Coloma complex, 0 to 2 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kankakee Outwash Plain Approved map unit name
ChC	Chelsea fine sand, 5 to 10 percent slopes	CnbC	Coloma sand, 5 to 10 percent slopes
		UfhC	Urban land-Coloma complex, 5 to 10 percent slopes
CoA	Coupee silt loam, 0 to 2 percent slopes	CrrA	Coupee silt loam, 0 to 1 percent slopes
Ed	Edwards muck	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		EchAN	Edwards muck, drained, 0 to 1 percent slopes
		EchAU	Edwards muck, undrained, 0 to 1 percent slopes
		EcrAN	Edselton muck, drained, 0 to 1 percent slopes
		MfrAN	Madaus muck, drained, 0 to 1 percent slopes
		MgdAN	Martisco muck, drained, 0 to 1 percent slopes
		MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
		MvhAN	Moston muck, drained, 0 to 1 percent slopes
Gf	Gilford sandy loam	GczA	Gilford sandy loam, 0 to 1 percent slopes
		UeqA	Urban land-Gilford complex, 0 to 1 percent slopes
GP	Gravel Pits	Pmg	Pits, Gravel
		Pxo	Psamments
Hm	Houghton muck	AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		EcrAN	Edselton muck, drained, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
Ho	Houghton muck, drained	AatAN	Ackerman muck, drained, 0 to 1 percent slopes
		AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		ApuAN	Antung muck, drained, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kankakee Outwash Plain Approved map unit name
Ho	Houghton muck, drained	EchAN	Edwards muck, drained, 0 to 1 percent slopes
		EcrAN	Edselton muck, drained, 0 to 1 percent slopes
		HfbAN	Henrietta muck, drained, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		MfrAN	Madaus muck, drained, 0 to 1 percent slopes
		MgdAN	Martisco muck, drained, 0 to 1 percent slopes
		MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
		MvhAN	Moston muck, drained, 0 to 1 percent slopes
		MwzAN	Muskego muck, drained, 0 to 1 percent slopes
		WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
Ma	Made land	PxlA	Psammaquents
Mc	Marsh	AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		HfbAU	Henrietta muck, undrained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		MfrAU	Madaus muck, undrained, 0 to 1 percent slopes
		MvhAU	Moston muck, undrained, 0 to 1 percent slopes
		PaaAU	Palms muck, undrained, 0 to 1 percent slopes
Mf	Maumee loamy fine sand	MhaA	Maumee loamy fine sand, 0 to 1 percent slopes
		MvkA	Morocco loamy sand, 0 to 1 percent slopes
		UkaA	Urban land-Maumee complex, 0 to 1 percent slopes
Mg	Maumee mucky loamy fine sand	MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
		UkaA	Urban land-Maumee complex, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kankakee Outwash Plain Approved map unit name
Mp	Milford silty clay loam	ReyA	Rensselaer loam, 0 to 1 percent slopes
OsA	Oshtemo sandy loam, 0 to 2 percent slopes	OlcA	Oshtemo sandy loam, 0 to 1 percent slopes
		UkxA	Urban land-Oshtemo complex, 0 to 1 percent slopes
OsB	Oshtemo sandy loam, 2 to 6 percent slopes	OlcB	Oshtemo sandy loam, 1 to 5 percent slopes
		UkxB	Urban land-Oshtemo complex, 1 to 5 percent slopes
OsC2	Oshtemo sandy loam, 6 to 12 percent slopes, eroded	OlcC2	Oshtemo sandy loam, 5 to 10 percent slopes, eroded
Pa	Palms muck, drained	AatAN	Ackerman muck, drained, 0 to 1 percent slopes
		AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		ApuAN	Antung muck, drained, 0 to 1 percent slopes
		HfbAN	Henrietta muck, drained, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		MfrAN	Madaus muck, drained, 0 to 1 percent slopes
		MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
		MvhAN	Moston muck, drained, 0 to 1 percent slopes
		PaaAN	Palms muck, drained, 0 to 1 percent slopes
		PaaAU	Palms muck, undrained, 0 to 1 percent slopes
Qu	Quinn loam	QujA	Quinn sandy loam, 0 to 1 percent slopes
		W	Water, unclassified
Re	Rensselaer loam	ReyA	Rensselaer loam, 0 to 1 percent slopes
		UgrA	Urban land-Rensselaer complex, 0 to 1 percent slopes
Rm	Rensselaer mucky loam	HfbAN	Henrietta muck, drained, 0 to 1 percent slopes
		MfrAN	Madaus muck, drained, 0 to 1 percent slopes
		RenA	Rensselaer mucky loam, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Kankakee Outwash Plain Approved map unit name
Rm	Rensselaer mucky loam	UgrA	Urban land-Rensselaer complex, 0 to 1 percent slopes
Te	Tedrow fine sand	BteA	Brems loamy sand, 0 to 1 percent slopes
		MvkA	Morocco loamy sand, 0 to 1 percent slopes
		UgaA	Urban land-Morocco complex, 0 to 1 percent slopes
TrA	Tracy sandy loam, 0 to 2 percent slopes	TmpA	Tracy sandy loam, 0 to 1 percent slopes
TrB	Tracy sandy loam, 2 to 6 percent slopes	TmpB	Tracy sandy loam, 1 to 5 percent slopes
TrC2	Tracy sandy loam, 6 to 12 percent slopes, eroded	TmpC2	Tracy sandy loam, 5 to 10 percent slopes, eroded
Tx	Troxel silt loam	TnwA	Troxel silt loam, 0 to 1 percent slopes
		UmxA	Urban land-Troxel complex, 0 to 1 percent slopes
TyA	Tyner loamy sand, 0 to 6 percent slopes	CnbB	Coloma sand, 2 to 5 percent slopes
		UfhB	Urban land-Coloma complex, 2 to 5 percent slopes
TyC	Tyner loamy sand, 6 to 12 percent slopes	CnbC	Coloma sand, 5 to 10 percent slopes
		UfhC	Urban land-Coloma complex, 5 to 10 percent slopes
TyD	Tyner loamy sand, 12 to 18 percent slopes	CnbD	Coloma sand, 10 to 18 percent slopes
W	Water	W	Water, unclassified
Wk	Wallkill silt loam	WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
Ws	Washtenaw silt loam	SnlA	Southwest silt loam, 0 to 1 percent slopes
Wt	Whitaker loam	WtbA	Whitaker loam, 0 to 1 percent slopes
XXX	Unnamed polygons	PxlA	Psammaquents
		Pxo	Psamments

"XXX" Field Symbol = Unlabeled ploygons in the 1977 soil survey publication

See the "Landform Boundary Map" for the distribution of the Kankakee Outwash Plain.

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Maxinkuckee End Moraine Approved map unit name
Ad	Adrian muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		PaaAN	Palms muck, drained, 0 to 1 percent slopes
		W	Water, unclassified
AeA	Alida loam, 0 to 2 percent slopes	AxvA	Auten loam, 0 to 1 percent slopes
		UdzA	Urban land-Auten complex, 0 to 1 percent slopes
Am	Alluvial land	AahAK	Abscota loamy sand, 0 to 2 percent slopes, occasionally flooded, brief duration
		CmbAI	Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration
Au	Aubbeenaubbee sandy loam	SdzA	Selfridge-Crosier complex, 0 to 1 percent slopes
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
BbA	Blount silt loam, 0 to 2 percent slopes	CvdA	Crosier loam, 0 to 1 percent slopes
Bd	Brady sandy loam	BshA	Brady sandy loam, 0 to 1 percent slopes
BeA	Brems fine sand, 0 to 2 percent slopes	BsxA	Brems-Morocco loamy sands, 0 to 1 percent slopes
Br	Brookston silty clay loam	BuuA	Brookston loam, 0 to 1 percent slopes
		UfbA	Urban land-Brookston complex, 0 to 1 percent slopes
ChA	Chelsea fine sand, 0 to 5 percent slopes	CnbB	Coloma sand, 2 to 5 percent slopes
ChC	Chelsea fine sand, 5 to 10 percent slopes	CnbC	Coloma sand, 5 to 10 percent slopes
CoA	Coupee silt loam, 0 to 2 percent slopes	MfaA	Martinsville loam, 0 to 1 percent slopes
		UhwA	Urban land-Martinsville complex, 0 to 1 percent slopes
CtA	Crosier loam, 0 to 2 percent slopes	CvdA	Crosier loam, 0 to 1 percent slopes
		UeaA	Urban land-Crosier complex, 0 to 3 percent slopes
CtB	Crosier loam, 2 to 4 percent slopes	CvdB	Crosier loam, 1 to 4 percent slopes
		UeaA	Urban land-Crosier complex, 0 to 3 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Maxinkuckee End Moraine Approved map unit name
De	Del Rey silt loam	DcrA	Del Rey silty clay loam, 0 to 1 percent slopes
		UfrA	Urban land-Del Rey complex, 0 to 1 percent slopes
Ed	Edwards muck	EchAU	Edwards muck, undrained, 0 to 1 percent slopes
Gf	Gilford sandy loam	GczA	Gilford sandy loam, 0 to 1 percent slopes
GP	Gravel Pits	Pmg	Pits, Gravel
HdA	Hillsdale sandy loam, 0 to 2 percent slopes	HkkA	Hillsdale sandy loam, 0 to 1 percent slopes
HdB	Hillsdale sandy loam, 2 to 6 percent slopes	HkkB	Hillsdale sandy loam, 1 to 5 percent slopes
		UhmB	Urban land-Hillsdale complex, 1 to 5 percent slopes
HeC2	Hillsdale complex, 6 to 12 percent slopes, eroded	HknC2	Hillsdale-Oshtemo sandy loams, 5 to 10 percent slopes, eroded
		UhoC	Urban land-Hillsdale-Oshtemo complex, 5 to 10 percent slopes
HeD2	Hillsdale complex, 12 to 18 percent slopes, eroded	HknD2	Hillsdale-Oshtemo sandy loams, 10 to 18 percent slopes, eroded
		UhoD	Urban land-Hillsdale-Tracy complex, 10 to 18 percent slopes
Hm	Houghton muck	HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
Ho	Houghton muck, drained	HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		MvhAN	Moston muck, drained, 0 to 1 percent slopes
La	Landes loam	AahAK	Abscota loamy sand, 0 to 2 percent slopes, occasionally flooded, brief duration
Ma	Made land	PxlA	Psammaquents
Mc	Marsh	HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		W	Water, unclassified
MeA	Martinsville loam, 0 to 2 percent slopes	MfaA	Martinsville loam, 0 to 1 percent slopes
		UhwA	Urban land-Martinsville complex, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Maxinkuckee End Moraine Approved map unit name
MeB2	Martinsville loam, 2 to 6 percent slopes, eroded	MfaB2	Martinsville loam, 1 to 5 percent slopes, eroded
		UhwB	Urban land-Martinsville complex, 1 to 5 percent slopes
MeC2	Martinsville loam, 6 to 12 percent slopes, eroded	MfaC2	Martinsville loam, 5 to 10 percent slopes, eroded
		UhwC	Urban land-Martinsville complex, 5 to 10 percent slopes
Mg	Maumee mucky loamy fine sand	MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
MkB	Metea loamy fine sand, 2 to 6 percent slopes	RoqB	Riddles-Metea complex, 1 to 5 percent slopes
MmB	Miami loam, 2 to 6 percent slopes	UnqB	Urban land-Williamstown-Crosier complex, 1 to 5 percent slopes
		WobB	Williamstown-Crosier loams, 1 to 5 percent slopes
MmC2	Miami loam, 6 to 12 percent slopes, eroded	MmbC2	Miami loam, 5 to 10 percent slopes, eroded
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
		WoaC2	Williamstown loam, 5 to 10 percent slopes, eroded
MoC3	Miami clay loam, 6 to 12 percent slopes, severely eroded	MmdC3	Miami clay loam, 5 to 10 percent slopes, severely eroded
MoD3	Miami clay loam, 12 to 18 percent slopes, severely eroded	MmdD3	Miami clay loam, 10 to 18 percent slopes, severely eroded
Mp	Milford silty clay loam	MouA	Milford silty clay loam, 0 to 1 percent slopes
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
		UkeA	Urban land-Milford complex, 0 to 1 percent slopes
MrB2	Morley silt loam, 2 to 6 percent slopes, eroded	RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
MrC2	Morley silt loam, 6 to 12 percent slopes, eroded	RopC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded
OsA	Oshtemo sandy loam, 0 to 2 percent slopes	OkrA	Oshtemo fine sandy loam, 0 to 1 percent slopes
		UkxA	Urban land-Oshtemo complex, 0 to 1 percent slopes
OsB	Oshtemo sandy loam, 2 to 6 percent slopes	OkrB	Oshtemo fine sandy loam, 1 to 5 percent slopes
		UkxB	Urban land-Oshtemo complex, 1 to 5 percent slopes
OsC2	Oshtemo sandy loam, 6 to 12 percent slopes, eroded	OkrC2	Oshtemo fine sandy loam, 5 to 10 percent slopes, eroded

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Maxinkuckee End Moraine Approved map unit name
OsC2	Oshtemo sandy loam, 6 to 12 percent slopes, eroded	UkxC	Urban land-Oshtemo complex, 5 to 10 percent slopes
OsD	Oshtemo sandy loam, 12 to 18 percent slopes	OkrD	Oshtemo fine sandy loam, 10 to 18 percent slopes
Pa	Palms muck, drained	HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		PaaAN	Palms muck, drained, 0 to 1 percent slopes
Qu	Quinn loam	BshA	Brady sandy loam, 0 to 1 percent slopes
Re	Rensselaer loam	ReyA	Rensselaer loam, 0 to 1 percent slopes
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
		UgrA	Urban land-Rensselaer complex, 0 to 1 percent slopes
Rm	Rensselaer mucky loam	RenA	Rensselaer mucky loam, 0 to 1 percent slopes
RtA	Riddles loam, 0 to 2 percent slopes	RopA	Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes
		UgsA	Urban land-Riddles-Oshtemo complex, 0 to 1 percent slopes
RtB	Riddles loam, 2 to 6 percent slopes	RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
		UgsB	Urban land-Riddles-Oshtemo complex, 1 to 5 percent slopes
RtC2	Riddles loam, 6 to 12 percent slopes, eroded	RoqC2	Riddles-Metea complex, 5 to 10 percent slopes, eroded
		UmfC	Urban land-Riddles-Metea complex, 5 to 10 percent slopes
RtD2	Riddles loam, 12 to 18 percent slopes, eroded	RoqD2	Riddles-Metea complex, 10 to 18 percent slopes, eroded
TrA	Tracy sandy loam, 0 to 2 percent slopes	OkrA	Oshtemo fine sandy loam, 0 to 1 percent slopes
TrB	Tracy sandy loam, 2 to 6 percent slopes	OkrB	Oshtemo fine sandy loam, 1 to 5 percent slopes
TrC2	Tracy sandy loam, 6 to 12 percent slopes, eroded	OkrC2	Oshtemo fine sandy loam, 5 to 10 percent slopes, eroded
Tx	Troxel silt loam	TnwA	Troxel silt loam, 0 to 1 percent slopes
		UmxA	Urban land-Troxel complex, 0 to 1 percent slopes
TyA	Tyner loamy sand, 0 to 6 percent slopes	TxuB	Tyner loamy sand, 1 to 5 percent slopes
		UgvB	Urban land-Tyner complex, 1 to 5 percent slopes
TyC	Tyner loamy sand, 6 to 12 percent slopes	TxuC	Tyner loamy sand, 5 to 10 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Maxinkuckee End Moraine Approved map unit name
TyC	Tyner loamy sand, 6 to 12 percent slopes	UgvC	Urban land-Tyner complex, 5 to 10 percent slopes
TyD	Tyner loamy sand, 12 to 18 percent slopes	TxuD	Tyner loamy sand, 10 to 18 percent slopes
W	Water	W	Water, unclassified
Wk	Wallkill silt loam	WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
Ws	Washtenaw silt loam	RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
		SnlA	Southwest silt loam, 0 to 1 percent slopes
		UmuA	Urban land-Southwest complex, 0 to 1 percent slopes
Wt	Whitaker loam	UnoA	Urban land-Whitaker complex, 0 to 1 percent slopes
		WtbA	Whitaker loam, 0 to 1 percent slopes
XXX	Unnamed polygons	CvdA	Crosier loam, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		PaaAU	Palms muck, undrained, 0 to 1 percent slopes
		PxlA	Psammaquents
		Pxo	Psamments
		UgsA	Urban land-Riddles-Oshtemo complex, 0 to 1 percent slopes
		WoaB2	Williamstown loam, 1 to 5 percent slopes, eroded
		WoaC2	Williamstown loam, 5 to 10 percent slopes, eroded

"XXX" Field Symbol = Unlabeled ploygons in the 1977 soil survey publication

See the "Landform Boundary Map" for the distribution of the Maxinkuckee End Moraine.

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Maxinkuckee Outwash Plain Approved map unit name
Ad	Adrian muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		EchAN	Edwards muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
AeA	Alida loam, 0 to 2 percent slopes	AxvA	Auten loam, 0 to 1 percent slopes
Am	Alluvial land	CmbAI	Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration
		JaaAK	Jamestown silt loam, 0 to 1 percent slopes, occasionally flooded, brief duration
		WcnAI	Waterford loam, 0 to 2 percent slopes, frequently flooded, long duration
Bd	Brady sandy loam	BshA	Brady sandy loam, 0 to 1 percent slopes
BeA	Brems fine sand, 0 to 2 percent slopes	BsxA	Brems-Morocco loamy sands, 0 to 1 percent slopes
ChA	Chelsea fine sand, 0 to 5 percent slopes	TxuB	Tyner loamy sand, 1 to 5 percent slopes
ChC	Chelsea fine sand, 5 to 10 percent slopes	TxuC	Tyner loamy sand, 5 to 10 percent slopes
CoA	Coupee silt loam, 0 to 2 percent slopes	CrrA	Coupee silt loam, 0 to 1 percent slopes
CtB	Crosier loam, 2 to 4 percent slopes	CvdB	Crosier loam, 1 to 4 percent slopes
Ed	Edwards muck	EchAN	Edwards muck, drained, 0 to 1 percent slopes
		EchAU	Edwards muck, undrained, 0 to 1 percent slopes
		EcrAN	Edselton muck, drained, 0 to 1 percent slopes
		MfrAN	Madaus muck, drained, 0 to 1 percent slopes
EsA	Elston sandy loam, 0 to 2 percent slopes	EmeA	Elston sandy loam, 0 to 1 percent slopes
FsA	Fox sandy loam, 0 to 2 percent slopes	TmpA	Tracy sandy loam, 0 to 1 percent slopes
FsB	Fox sandy loam, 2 to 6 percent slopes	Pmg	Pits, Gravel
		TmpB	Tracy sandy loam, 1 to 5 percent slopes
Gf	Gilford sandy loam	GczA	Gilford sandy loam, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Maxinkuckee Outwash Plain Approved map unit name
Gp	Gravel Pits	OlcB	Oshtemo sandy loam, 1 to 5 percent slopes
		Pmg	Pits, Gravel
		Pxo	Psamments
HdB	Hillsdale sandy loam, 2 to 6 percent slopes	TmpB	Tracy sandy loam, 1 to 5 percent slopes
Hm	Houghton muck	HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
Ho	Houghton muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		MfrAN	Madaus muck, drained, 0 to 1 percent slopes
		MwzAN	Muskego muck, drained, 0 to 1 percent slopes
La	Landes loam	JaaAK	Jamestown silt loam, 0 to 1 percent slopes, occasionally flooded, brief duration
Ma	Made land	Pxo	Psamments
Mc	Marsh	AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		EchAU	Edwards muck, undrained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		MfrAU	Madaus muck, undrained, 0 to 1 percent slopes
		W	Water, unclassified
MeB2	Martinsville loam, 2 to 6 percent slopes, eroded	OlcB	Oshtemo sandy loam, 1 to 5 percent slopes
MeC2	Martinsville loam, 6 to 12 percent slopes, eroded	OlcC2	Oshtemo sandy loam, 5 to 10 percent slopes, eroded
Mf	Maumee loamy fine sand	MhaA	Maumee loamy fine sand, 0 to 1 percent slopes
Mg	Maumee mucky loamy fine sand	MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
MkB	Metea loamy fine sand, 4 to 10 percent slopes	CvdB	Crosier loam, 1 to 4 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Maxinkuckee Outwash Plain Approved map unit name
Mp	Milford silty clay loam	MouA	Milford silty clay loam, 0 to 1 percent slopes
OsA	Oshtemo sandy loam, 0 to 2 percent slopes	OlcA	Oshtemo sandy loam, 0 to 1 percent slopes
OsB	Oshtemo sandy loam, 2 to 6 percent slopes	OlcB	Oshtemo sandy loam, 1 to 5 percent slopes
OsC2	Oshtemo sandy loam, 6 to 12 percent slopes, eroded	OlcC2	Oshtemo sandy loam, 5 to 10 percent slopes, eroded
OsD	Oshtemo sandy loam, 12 to 18 percent slopes	OlcD	Oshtemo sandy loam, 10 to 18 percent slopes
Pa	Palms muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		EchAN	Edwards muck, drained, 0 to 1 percent slopes
		PaaAN	Palms muck, drained, 0 to 1 percent slopes
		PaaAU	Palms muck, undrained, 0 to 1 percent slopes
Qu	Quinn loam	QujA	Quinn sandy loam, 0 to 1 percent slopes
Re	Rensselaer loam	HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		ReyA	Rensselaer loam, 0 to 1 percent slopes
Rm	Rensselaer mucky loam	RenA	Rensselaer mucky loam, 0 to 1 percent slopes
RtC2	Riddles loam, 6 to 12 percent slopes, eroded	HkkB	Hillsdale sandy loam, 1 to 5 percent slopes
Te	Tedrow fine sand	BteA	Brems loamy sand, 0 to 1 percent slopes
TrA	Tracy sandy loam, 0 to 2 percent slopes	TmpA	Tracy sandy loam, 0 to 1 percent slopes
TrB	Tracy sandy loam, 2 to 6 percent slopes	TmpB	Tracy sandy loam, 1 to 5 percent slopes
TrC2	Tracy sandy loam, 6 to 12 percent slopes, eroded	TxuC	Tyner loamy sand, 5 to 10 percent slopes
Tx	Troxel silt loam	TnwA	Troxel silt loam, 0 to 1 percent slopes
TyA	Tyner loamy sand, 0 to 6 percent slopes	CnbB	Coloma sand, 2 to 5 percent slopes
TyC	Tyner loamy sand, 6 to 12 percent slopes	CnbC	Coloma sand, 5 to 10 percent slopes
TyD	Tyner loamy sand, 12 to 18 percent slopes	OlcD	Oshtemo sandy loam, 10 to 18 percent slopes
W	Water	W	Water, unclassified

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Maxinkuckee Outwash Plain Approved map unit name
Wk	Wallkill silt loam	WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
Ws	Washtenaw silt loam	SnlA	Southwest silt loam, 0 to 1 percent slopes
Wt	Whitaker loam	WtbA	Whitaker loam, 0 to 1 percent slopes
XXX	unnamed polygons	HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		PxlA	Psammaquents
		Pxo	Psamments

"XXX" Field Symbol = Unlabeled ploygons in the 1977 soil survey publication

See the "Landform Boundary Map" for the distribution of the Maxinkuckee Outwash Plain.

Field Symbol	1977 Legend Field map unit name	Publication Symbol	St. Joseph Outwash Plain Approved map unit name
Ad	Adrian muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
		ApuAN	Antung muck, drained, 0 to 1 percent slopes
		EcrAN	Edselton muck, drained, 0 to 1 percent slopes
		MfrAN	Madaus muck, drained, 0 to 1 percent slopes
		PxlA	Psammaquents
AeA	Alida loam, 0 to 2 percent slopes	AxvA	Auten loam, 0 to 1 percent slopes
		BshA	Brady sandy loam, 0 to 1 percent slopes
		MvkA	Morocco loamy sand, 0 to 1 percent slopes
		UdzA	Urban land-Auten complex, 0 to 1 percent slopes
Am	Alluvial land	AahAK	Abscota loamy sand, 0 to 2 percent slopes, occasionally flooded, brief duration
		CmbAI	Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration
		PxlA	Psammaquents
		WcnAI	Waterford loam, 0 to 2 percent slopes, frequently flooded, long duration
Bd	Brady sandy loam	MvkA	Morocco loamy sand, 0 to 1 percent slopes
		UgaA	Urban land-Morocco complex, 0 to 1 percent slopes
		W	Water, unclassified
BeA	Brems fine sand, 0 to 2 percent slopes	BsxA	Brems-Morocco loamy sands, 0 to 1 percent slopes
		UdkA	Urban land-Brady complex, 0 to 1 percent slopes
		UewA	Urban land-Brems-Morocco complex, 0 to 1 percent slopes
ChA	Chelsea fine sand, 0 to 5 percent slopes	CnbA	Coloma sand, 0 to 2 percent slopes
		OmgA	Osolo loamy sand, 0 to 1 percent slopes
		TxuA	Tyner loamy sand, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	St. Joseph Outwash Plain Approved map unit name
ChA	Chelsea fine sand, 0 to 5 percent slopes	TxuB	Tyner loamy sand, 1 to 5 percent slopes
		UfhA	Urban land-Coloma complex, 0 to 2 percent slopes
		UglA	Urban land-Osolo complex, 0 to 1 percent slopes
		UgvA	Urban land-Tyner complex, 0 to 1 percent slopes
		UgvB	Urban land-Tyner complex, 1 to 5 percent slopes
ChC	Chelsea fine sand, 5 to 10 percent slopes	TxuC	Tyner loamy sand, 5 to 10 percent slopes
		UgvC	Urban land-Tyner complex, 5 to 10 percent slopes
CoA	Coupee silt loam, 0 to 2 percent slopes	AxvA	Auten loam, 0 to 1 percent slopes
		UdzA	Urban land-Auten complex, 0 to 1 percent slopes
Ed	Edwards muck	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		EcrAN	Edselton muck, drained, 0 to 1 percent slopes
		EcrAU	Edselton muck, undrained, 0 to 1 percent slopes
		MfrAN	Madaus muck, drained, 0 to 1 percent slopes
EsA	Elston sandy loam, 0 to 2 percent slopes	MsaA	Mishawaka sandy loam, 0 to 1 percent slopes
		UfzA	Urban land-Mishawaka complex, 0 to 1 percent slopes
FsA	Fox sandy loam, 0 to 2 percent slopes	UkxA	Urban land-Oshtemo complex, 0 to 1 percent slopes
		Usl	Udorthents, rubbish
FsB	Fox sandy loam, 2 to 6 percent slopes	Pxo	Psamments
		UkxB	Urban land-Oshtemo complex, 1 to 5 percent slopes
Gf	Gilford sandy loam	CmbAI	Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration
		GczA	Gilford sandy loam, 0 to 1 percent slopes
		MvkA	Morocco loamy sand, 0 to 1 percent slopes
		PxlA	Psammaquents
		UeqA	Urban land-Gilford complex, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	St. Joseph Outwash Plain Approved map unit name
GP	Gravel Pits	Pmg	Pits, Gravel
		Pxo	Psamments
HeD2	Hillsdale complex, 12 to 18 percent slopes, eroded	TxuC	Tyner loamy sand, 5 to 10 percent slopes
		UgvC	Urban land-Tyner complex, 5 to 10 percent slopes
Ho	Houghton muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		ApuAN	Antung muck, drained, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
Hm	Houghton muck	HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
La	Landes loam	AahAK	Abscota loamy sand, 0 to 2 percent slopes, occasionally flooded, brief duration
		TxuB	Tyner loamy sand, 1 to 5 percent slopes
		TxuF	Tyner loamy sand, 18 to 45 percent slopes
Ma	Made land	Pxo	Psamments
Mc	Marsh	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
Mf	Maumee loamy fine sand	MgcA	Maumee loamy sand, 0 to 1 percent slopes
		PxlA	Psammaquents
		UkaA	Urban land-Maumee complex, 0 to 1 percent slopes
Mg	Maumee mucky loamy fine sand	MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
		PxlA	Psammaquents
		UkaA	Urban land-Maumee complex, 0 to 1 percent slopes
Mp	Milford silty clay loam	MouA	Milford silty clay loam, 0 to 1 percent slopes
		UkeA	Urban land-Milford complex, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	St. Joseph Outwash Plain Approved map unit name
OsA	Oshtemo sandy loam, 0 to 2 percent slopes	BaaA	Bainter sandy loam, 0 to 1 percent slopes
		OmgA	Osolo loamy sand, 0 to 1 percent slopes
		TxuA	Tyner loamy sand, 0 to 1 percent slopes
		TxuB	Tyner loamy sand, 1 to 5 percent slopes
		UglA	Urban land-Osolo complex, 0 to 1 percent slopes
		UgvA	Urban land-Tyner complex, 0 to 1 percent slopes
		UgvB	Urban land-Tyner complex, 1 to 5 percent slopes
OsB	Oshtemo sandy loam, 2 to 6 percent slopes	BaaB	Bainter sandy loam, 1 to 4 percent slopes
		TxuB	Tyner loamy sand, 1 to 5 percent slopes
		UgvB	Urban land-Tyner complex, 1 to 5 percent slopes
OsC2	Oshtemo sandy loam, 6 to 12 percent slopes, eroded	TxuB	Tyner loamy sand, 1 to 5 percent slopes
		TxuC	Tyner loamy sand, 5 to 10 percent slopes
		UgvC	Urban land-Tyner complex, 5 to 10 percent slopes
OsD	Oshtemo sandy loam, 12 to 18 percent slopes	UgvD	Urban land-Tyner complex, 10 to 18 percent slopes
Pa	Palms muck, drained	AbhAN	Adrian muck, drained, 0 to 1 percent slopes
		EcrAU	Edselton muck, undrained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		PaaAN	Palms muck, drained, 0 to 1 percent slopes
		PxlA	Psammaquents
Qu	Quinn loam	QujA	Quinn sandy loam, 0 to 1 percent slopes
Re	Rensselaer loam	GczA	Gilford sandy loam, 0 to 1 percent slopes
		PxlA	Psammaquents
		UeqA	Urban land-Gilford complex, 0 to 1 percent slopes
Rm	Rensselaer mucky loam	GdnA	Gilford mucky sandy loam, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	St. Joseph Outwash Plain Approved map unit name
Rm	Rensselaer mucky loam	UeqA	Urban land-Gilford complex, 0 to 1 percent slopes
Te	Tedrow fine sand	MvkA	Morocco loamy sand, 0 to 1 percent slopes
		UgaA	Urban land-Morocco complex, 0 to 1 percent slopes
TrA	Tracy sandy loam, 0 to 2 percent slopes	TxuA	Tyner loamy sand, 0 to 1 percent slopes
		UgvA	Urban land-Tyner complex, 0 to 1 percent slopes
TrB	Tracy sandy loam, 2 to 6 percent slopes	UgvB	Urban land-Tyner complex, 1 to 5 percent slopes
TrC2	Tracy sandy loam, 6 to 12 percent slopes, eroded	UgvC	Urban land-Tyner complex, 5 to 10 percent slopes
Tx	Troxel silt loam	AxvA	Auten loam, 0 to 1 percent slopes
		UdzA	Urban land-Auten complex, 0 to 1 percent slopes
TyA	Tyner loamy sand, 0 to 6 percent slopes	TxuA	Tyner loamy sand, 0 to 1 percent slopes
		TxuB	Tyner loamy sand, 1 to 5 percent slopes
		OmgA	Osolo loamy sand, 0 to 1 percent slopes
		UglA	Urban land-Osolo complex, 0 to 1 percent slopes
		UgvA	Urban land-Tyner complex, 0 to 1 percent slopes
		UgvB	Urban land-Tyner complex, 1 to 5 percent slopes
TyC	Tyner loamy sand, 6 to 12 percent slopes	TxuC	Tyner loamy sand, 5 to 10 percent slopes
		UgvC	Urban land-Tyner complex, 5 to 10 percent slopes
TyD	Tyner loamy sand, 12 to 18 percent slopes	TxuD	Tyner loamy sand, 10 to 18 percent slopes
		UgvD	Urban land-Tyner complex, 10 to 18 percent slopes
W	Water	W	Water, unclassified
Wk	Wallkill silt loam	UntA	Urban land-Wunabuna complex, 0 to 1 percent slopes
Ws	Washtenaw silt loam	SnlA	Southwest silt loam, 0 to 1 percent slopes
		UmuA	Urban land-Southwest complex, 0 to 1 percent slopes
Wt	Whitaker loam	UgaA	Urban land-Morocco complex, 0 to 1 percent slopes

Field Symbol	1977 Legend Field map unit name	Publication Symbol	St. Joseph Outwash Plain Approved map unit name
XXX	unnamed polygons	Pxo	Psamments

"XXX" Field Symbol = Unlabeled ploygons in the 1977 soil survey publication
See the "Landform Boundary Map" for the distribution of the St. Joseph Outwash Plain.

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Valparaiso End Moraine Approved map unit name
AeA	Alida loam, 0 to 2 percent slopes	RopA	Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes
Am	Alluvial land	CmbAl	Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration
BbA	Blount silt loam, 0 to 2 percent slopes	BmgA	Blount silt loam, 0 to 2 percent slopes
		CvdA	Crosier loam, 0 to 1 percent slopes
		CvdB	Crosier loam, 1 to 4 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
CtB	Crosier loam, 2 to 6 percent slopes	BmgA	Blount silt loam, 0 to 2 percent slopes
Gf	Gilford sandy loam	SnlA	Southwest silt loam, 0 to 1 percent slopes
HdB	Hillsdale sandy loam, 2 to 6 percent slopes	RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
HeC2	Hillsdale complex, 6 to 12 percent slopes, eroded	RopC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded
HeD2	Hillsdale complex, 12 to 18 percent slopes, eroded	RopD2	Riddles-Oshtemo fine sandy loams, 10 to 18 percent slopes, eroded
Ho	Houghton muck, drained	EchAN	Edwards muck, drained, 0 to 1 percent slopes
		HtbAN	Houghton muck, drained, 0 to 1 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
Mc	Marsh	BmgA	Blount silt loam, 0 to 2 percent slopes
		HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
		MouA	Milford silty clay loam, 0 to 1 percent slopes
		PaaAU	Palms muck, undrained, 0 to 1 percent slopes
		ReyA	Rensselaer loam, 0 to 1 percent slopes
		WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
MeB2	Martinsville loam, 2 to 6 percent slopes, eroded	MfaB2	Martinsville loam, 1 to 5 percent slopes, eroded
MmB	Miami loam, 2 to 6 percent slopes	RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes

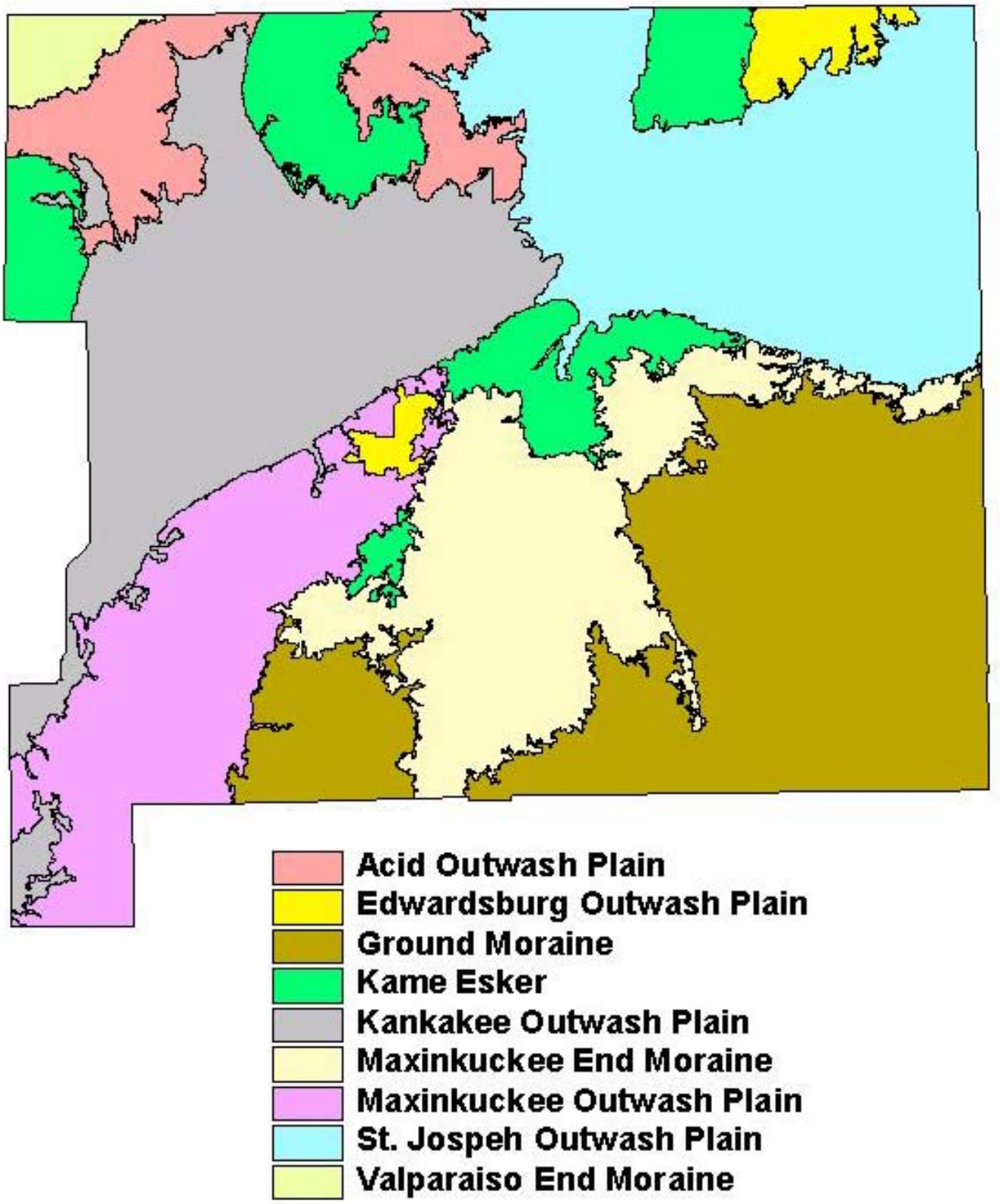
Field Symbol	1977 Legend Field map unit name	Publication Symbol	Valparaiso End Moraine Approved map unit name
MoC2	Miami clay loam, 6 to 12 percent slopes, eroded	RopC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded
MoC3	Miami clay loam, 6 to 12 percent slopes, severely eroded	MtsC2	Morley silt loam, 6 to 12 percent slopes, eroded
Mp	Milford silty clay loam	BmgA	Blount silt loam, 0 to 2 percent slopes
		MouA	Milford silty clay loam, 0 to 1 percent slopes
		PaaAU	Palms muck, undrained, 0 to 1 percent slopes
		ReyA	Rensselaer loam, 0 to 1 percent slopes
		RopD2	Riddles-Oshtemo fine sandy loams, 10 to 18 percent slopes, eroded
MrB2	Morley silt loam, 2 to 6 percent slopes, eroded	MtsB2	Morley silt loam, 2 to 6 percent slopes, eroded
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
MrC2	Morley silt loam, 6 to 12 percent slopes, eroded	MtsC2	Morley silt loam, 6 to 12 percent slopes, eroded
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
		RopC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded
MsD3	Morley silty clay loam, 12 to 18 percent slopes, severely eroded	MubD3	Morley silty clay loam, 12 to 18 percent slopes, severely eroded
OsA	Oshtemo sandy loam, 0 to 2 percent slopes	TxuB	Tyner loamy sand, 1 to 5 percent slopes
Pa	Palms muck, drained	PaaAU	Palms muck, undrained, 0 to 1 percent slopes
Re	Rensselaer loam	ReyA	Rensselaer loam, 0 to 1 percent slopes
RtA	Riddles loam, 0 to 2 percent slopes	RopA	Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
RtB	Riddles loam, 2 to 6 percent slopes	RopA	Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes
		RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
RtC2	Riddles loam, 6 to 12 percent slopes, eroded	RopC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded
		RopD2	Riddles-Oshtemo fine sandy loams, 10 to 18 percent slopes, eroded
RtD2	Riddles loam, 12 to 18 percent slopes, eroded	RopD2	Riddles-Oshtemo fine sandy loams, 10 to 18 percent slopes, eroded

Field Symbol	1977 Legend Field map unit name	Publication Symbol	Valparaiso End Moraine Approved map unit name
TrA	Tracy sandy loam, 0 to 2 percent slopes	RopA	Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes
W	Water	W	Water, unclassified
Wk	Wallkill silt loam	BshA	Brady sandy loam, 0 to 1 percent slopes
		WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
Ws	Washtenaw silt loam	BshA	Brady sandy loam, 0 to 1 percent slopes
		SnlA	Southwest silt loam, 0 to 1 percent slopes
		WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes
XXX	unnamed polygons	TxuA	Tyner loamy sand, 0 to 1 percent slopes

"XXX" Field Symbol = Unlabeled ploygons in the 1977 soil survey publication

See the "Landform Boundary Map" for the distribution of the Valparaiso End Moraine.

LANDFORM BOUNDARY MAP
OF
ST. JOSEPH COUNTY, INDIANA



Series established by this correlation:

Auten and Crumstown

Series dropped from the 1977 soil survey report:

Alida, Alluvial Land, Aubbeenaubbee, Chelsea, Fox, Gravel Pits, Landes, Made Land, Marsh, Tedrow, Wallkill, and Washtenaw

Established series added to the correlation legend:

Abscota, Ackerman, Antung, Bainter, Baugo, Cohoctah, Coloma, Edselton, Henrietta, Jamestown, Madaus, Martisco, Mishawaka, Moon, Morocco, Moston, Muskego, Osolo, Psammaquents, Psamments, Schoolcraft, Selfridge, Southwest, Udorthents Loamy, Udorthents Rubbish, Water, Waterford, Williamstown, and Wunabuna.

Type locations relocated:

Hillsdale – Moved from Jackson County, Michigan to St. Joseph County, Michigan

Series Made Inactive:

NONE

Verification of exact cooperator names:
(For the front cover and half-title page)

United States Department of Agriculture
Natural Resources Conservation Service
in Cooperation with Purdue University Agricultural Experiment Station and
the Indiana Department of Natural Resources, State Soil Conservation Board and
Division of Soil Conservation

The cooperators to be listed on the inside of the front cover are the same as those on the front cover, and in addition state: "This soil survey update is part of the technical assistance provided to St. Joseph County Soil and Water Conservation District. Financial assistance was provided by the Board of County Commissioners of St. Joseph County and the Polis Center of St. Joseph County."

Prior soil survey publications:

The last soil survey of St. Joseph County was completed in 1973 and was published by the United States Department of Agriculture, Soil Conservation Service in 1977. Reference to the prior soil surveys will be included in the literature citation of the manuscript. This survey replaces the 1977 soil survey and provides additional data, updated soil interpretations, and digital soil maps at a 1:12,000 scale on a 1 meter resolution orthophotography basemap.

Join Statements:

St. Joseph County, which was published in 1977, joins six modern soil surveys. These are: Elkhart, Marshall, Starke, and La Porte Counties of Indiana; Berrien and Cass Counties in Michigan. Elkhart County to the east was published in 2001. Marshall County to the south was published in 1980. Starke County to the southwest

was published in 1982. La Porte County to the west was published in 1982. Berrien County, Michigan to the northwest was published in 1980. Cass County, Michigan to the northeast was published in 1991. An exact join will be completed when these counties are updated to the MLRA legend.

The 1:250,000 scale STATSGO map will be revised and used as the base map for the general soil map. Therefore, the general soil map will not be joined to adjacent subsets. A hard copy of the map adjustments to St. Joseph County and adjacent subsets will be on file at the MO Office in Indianapolis, Indiana and the Headwaters MLRA Soil Survey Project Office in Plymouth, Indiana.

Disposition of field sheets:

The original soil maps used for the Soil Survey Report were ratioed and then converted from the scale of 1:15,840 to 1:12,000. These maps were then compiled onto 1 meter resolution orthophotography quarter quadrangles at a scale of 1:12,000. Geographic area to the county boundaries was compiled, i.e. compilation was to the county line resulting in partial compilation of quarter quadrangles along county boundaries, some of which have been compiled completely a result of adjacent counties being digitized. The compiled maps were certified through the quality assurance process on 17 November 2000 and subsequently digitized. The digitized dataset was edited for line placement, hydrology orientation, and correct placement of special and ad hoc features. The St. Joseph County update process was a pilot project for updating soil surveys with a digital product. ESRI's Arc Info was used to edit the digital product. Copies of the CD-ROM of the final product will remain at the state office, be certified for SSURGO at the Michigan Digitizing Center, and be provided to the St. Joseph County Board as part of the cost share cooperative agreement.

Instructions for map compilation and map finishing:

Map recompilation was completed by the Headwaters MLRA Soil Survey Staff on 31 December 2000. The compiled maps were certified through the 10% quality assurance process on 17 November 2000 and subsequently digitized by the Headwaters MLRA Soil Survey Staff in January 2001. Symbols for map finishing will be those approved for SSURGO standards as shown in this document. The MO office will complete a final check before delivering the product to the Michigan Digitizing center for SSURGO certification.

General Soil Map Units:

Current conventions for general soil map development will be used for St. Joseph County. A 1:250,000 STATSGO will be used as the base map for the general soil map.

There will be an amendment to this correlation memorandum issued once the digital soils data is available. The digital soils data will be used to determine association delineation boundaries, composition of named components, and types and amount of minor soils within the association.

Conventional and Special Symbols Legend:

Only those symbols indicated on the revise Indiana's NRCS-SOILS-37A (6/28/2001) will be shown on the legend and placed on the soil maps. The Indiana NRCS-SOILS 37A, definitions, explanations of the symbols, and terms used are within this document.

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state, or province
- County or parish
- Minor civil division
- Reservation (Military)
- Land grant (Optional)

OTHER BOUNDARY (label)

- Airport (Label only) — Davis Airport or Airstrip

LAND DIVISION CORNERS (section and land grants)

GEOGRAPHIC COORDINATE TICK

ROAD EMBLEMS & DESIGNATIONS

- Interstate — 79, 79 345
- Federal — 410, 410 224
- State — 62, 62 347

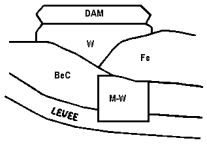
HYDROGRAPHIC FEATURES

STREAMS

- ‡Double line
- Unclassified (single line)
- Drainage end

SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS



LANDFORM FEATURES

ESCARPMENTS

- Bedrock
- Other than bedrock
- SHORT STEEP SLOPE
- GULLY

LEVEES

- ‡Single side slope (showing actual feature location)
- DEPRESSION, closed
- SINKHOLE

EXCAVATIONS

PITS

- Borrow pit
- Gravel pit
- Mine or quarry

MISCELLANEOUS SURFACE FEATURES

- Blowout
- Clay spot
- Gravelly spot
- Marsh or swamp
- Rock outcrop (includes sandstone and shale)
- Sandy spot
- Severely eroded spot
- Slide or slip
- Spoil area
- Stony spot
- Very stony spot
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO

RECOMMENDED AD HOC SOIL SYMBOLS

SYMBOL	SYMBOL_ID	SYMBOL	SYMBOL_ID
DCS	1	CRO	23
DKS	2	MIA	24
OVW	3	CGM	25
VMS	4		26
EAS	5		27
MAS	6		28
SAS	7		29
CAF	8	MUC	30
CAL	9		31
SLR	10		32
DUM	11		33
BRV	12		34
BRM	13	MRL	35
BRD	14		36
OBR	15		37
SSR	16		38
LBR	17		39
WDP	18	VSE	40
SBR	19		41
COB	20		42
CNS	21		43
FES	22	UWT	44

‡ Denotes SSURGO features and symbol.

LABEL	NAME	DESCRIPTION
DEP	Depression, closed	A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and is without a natural outlet for surface drainage. Typically 0.2 to 2.0 acres.
ERO	Severely eroded spot	An area where on the average 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units with component phases that are named severely eroded, very severely eroded, or gullied. Typically 0.2 to 2.0 acres.
ESO	Escarpment, other	A relatively continuous and steep slope or cliff that generally is produced by erosion but can be produced by faulting, which breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.
FES	Iron accumulation	An accumulation of Iron oxide in the form of nodules, concretions, or soft masses on the surface or near the surface of soils. Typically 0.2 to 2 acres in size.
GPI	Gravel pit	An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel. Typically 0.2 to 2.0 acres.
GRA	Gravelly spot	A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area of surrounding soil with less than 15 percent fragments. Typically 0.2 to 2.0 acres.
MAR	Marsh or swamp	A water-saturated, very poorly drained area, intermittently or permanently covered by water. Marsh areas are dominantly vegetated by sedges, cattails, and rushes. Swamps are dominantly vegetated by trees or shrubs. Typically 0.2 to 2.0 acres.
MRL	Marl spot	Areas where the mineral or muck surface has eroded or removed, exposing marl at the surface. Typically 0.5 to 2 acres in size.
MUC	Muck spot	An area with a poorly drained or very poorly drained soil that have a histic epipedon or where the surface is organic. The spot symbol is used only in a map unit consisting of a mineral soil. Typically 0.5 to 2 acres in size.
SAN	Sandy spot	A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils of the surrounding map unit is very fine sandy loam or finer. Typically 0.2 to 2.0 acres.
SLP	Short, steep slope	Narrow soil area that has slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.
UWT	Unclassified water	Small, natural or man-made lake, pond, or pit that contains water most of the year. Typically 0.2 to 2.0 acres.
WET	Wet spot	A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit. Not used in map units where poorly drained or very poorly drained soils are the named components. Typically 0.2 to 2.0 acres.

CONVERSION LEGEND FOR
ST. JOSEPH COUNTY, INDIANA

Acid Outwash Plain	
Field Symbol	**Publication Symbol**
Ad	AbhAN
AeA	AxvA
	UdzA
CoA	CrrA
	UfmA
Gf	GczA
GP	Pmg
	Pxo
	Uam
Ho	HtbAU
Ma	Pxo
	Uam
Mc	AbhAU
	HtbAU
	W
OsA	TmpA
	UmwA
OsB	TmpB
	RopB
	UmwB
OsC2	TmpC2
	RopC2
	UmwC
OsD	TmpD
	UmwD
Qu	QuiA
Re	ReyA
TrA	TmpA
	UmwA
TrB	TmpB
	UmwB
TrC2	TmpC2
	UmwC
Tx	TnwA
	UmxA
TyA	UgvA
TyC	TxuC
	UgvC
TyD	UmwD
W	W
Ws	SnlA
XXX	Pmg

Edwardsburg OWP	
Field Symbol	**Publication Symbol**
AeA	UdzA
Bd	UdkA
BeA	UewA
CoA	SesA
	UmpA
EsA	EmeA
	UftA
FsA	UdeA
FsB	BaaB
	UdeB
GP	Pmg
OsA	BaaA
	UdeA
OsB	BaaB
	UdeB
OsC2	BaaB
	BaaC2
	UdeC
Re	UgrA
TrA	BaaA
	UdeA
TrB	BaaB
	UdeB
TrC2	BaaC2
Tx	TnwA
	UmxA
TyA	TxuA
	UgvA
TyC	TxuC
	UgvC
W	W
Ws	UmuA

Ground Moraine	
Field Symbol	**Publication Symbol**
Ad	AbhAN
	AbhAU
	HfbAN
	MouA
	PaaAN
AeA	BbmA
Am	AahAK
	JaaAK
	WcnAI
Au	SdzA
BbA	CvdA
Bd	BshA
BeA	SdzaB
Br	BshA
	BuuA
	CvdA
	CvdB
	MmbC2
	PaaAN
	ReyA
ChA	SdzaB
ChC	SdzaB
CtA	BuuA
	CvdA
	CvdB
	MmbC2
CtB	CvdA
	CvdB
	WoaC2
De	BbmA
	BuuA
	CvdA
	DcrA
	WobB
Ed	EchAN
Gf	GczA
HdA	BshA
	MvkA
HdB	CwkB
	WujB

Ground Moraine	
Field Symbol	**Publication Symbol**
HeC2	RopC2
HeD2	RoqD2
Ho	AatAN
	HtbAN
	HtbAU
	MvhAN
	MwzAN
	MwzAU
	PaaAN
La	JaaAK
Ma	Usl
Mc	HtbAU
	MouA
	PaaAU
	SdzA
	W
	WrxAN
MeA	WoaA
MeB2	WoaB2
MeC2	MmbC2
Mf	MgcA
Mg	MhbA
MkB	WujB
MmB	CvdB
	WobB
MmC2	MmbC2
MoC3	MmdC3
	RoqC2
MoD3	MmdD3
Mp	CvdA
	BbmA
	BuuA
	MouA
	SnlA
MrB2	RopB
OsA	CwkA
OsB	CwkB
OsC2	OlcC2

See the “Landform Boundary Map”.

Ground Moraine	
Field Symbol	**Publication Symbol**
Pa	HfbAN
	HtbAN
	MvhAN
	MwzAN
	PaaAN
	PaaAU
	RenA
Re	MouA
	ReyA
Rm	RenA
RtA	CvdA
	RopA
RtB	CvdB
	RopB
RtC2	CvdB
	RoqC3
RtD2	RoqD2
TrA	CwkA
TrB	CwkB
TyD	MouA
W	W
Wk	WrxAN
Ws	CvdA
	SnlA
Wt	BbmA
XXX	CvdA

Kame Esker	
Field Symbol	**Publication Symbol**
Ad	AbhAN
	AbhAU
	PxlA
AeA	AxvA
	UdzA
Am	AahAK
	AbhAN
	AbhAU
	CmbAI
Au	SdzA
Bd	BshA
	UdkA
BeA	BsxA
Br	BuuA
ChA	CnbA
	UfhA
ChC	CnbC
	UfhC
CoA	CrrA
	TnwA
	UfmA
CtA	CvdA
	UeaA
CtB	CvdB
De	DcrA
	UfrA
Ed	EchAU
EsA	EmeA
	SesA
FsB	TmpB
	UmwB
Gf	GczA
	UeqA
GP	Pmg
	Pxo
HdA	HkkA
	UhmA
HdB	HkkB
	UhmB
HeC2	HkpC2
	UhpC

Kame Esker	
Field Symbol	**Publication Symbol**
HeD2	CnbD
	HkpD2
	UhpD
Hm	HtbAU
Ho	HtbAN
	HtbAU
	W
La	AahAK
Ma	PxlA
	Pxo
	Uam
Mc	AbhAU
	ApuAN
	HtbAN
	HtbAU
	MvhAU
	MwzAU
	PaaAU
	W
	WrxAN
MeA	MfaA
	UhwA
MeB2	MfaB2
	UhwB
MeC2	MfaC2
	UhwC
Mf	MgcA
Mg	MhbA
MkB	RoqB
	UmfB
MoD3	MmdD3
Mp	MouA
OsA	TmpA
	UmwA
OsB	TmpB
	UmwB
OsC2	TmpC2
	UmwC
OsD	TmpD
	UmwD
Pa	AbhAN
	PaaAN
	PaaAU

Kame Esker	
Field Symbol	**Publication Symbol**
Qu	GczA
	QujA
Re	AbhAU
	ReyA
	UgrA
Rm	RenA
RtA	RopA
	UgsA
RtB	RopB
	UgsB
RtC2	RoqC2
	UmfC
RtD2	RoqD2
	UmfD
TrA	TmpA
	UmwA
TrB	TmpB
	UmwB
TrC2	OlcC2
	TmpC2
	UmwC
Tx	TnwA
	UmxA
TyA	TxuB
	UgvA
TyC	TxuC
	UgvC
TyD	TxuD
	UgvD
W	AbhAU
	W
Wk	UntA
	WrxAN
Ws	SnlA
	UmuA
Wt	UnoA
	WtbA
XXX	PxlA
	Pxo

See the “Landform Boundary Map”.

Kankakee OWP	
Field Symbol	Publication Symbol
Ad	AatAN
	AbhAN
	AbhAU
	ApuAN
	EchAN
	EcrAN
	HfbAN
	HtbAN
	MfrAN
	MgdAN
	MhbA
	MvhAN
	MwzAN
	RenA
	UkaA
	WrxAN
AeA	AxvA
Am	CmbAI
Bd	BshA
	UdkA
BeA	BteA
ChA	CnbA
	UfhA
ChC	CnbC
	UfhC
CoA	CrrA
Ed	AbhAN
	EchAN
	EchAU
	EcrAN
	MfrAN
	MgdAN
	MhbA
	MvhAN
Gf	GczA
	UeqA
GP	Pmg
	Pxo
Hm	AbhAU
	EcrAN
	HtbAN
	HtbAU

Kankakee OWP	
Field Symbol	Publication Symbol
Ho	AatAN
	AbhAN
	AbhAU
	ApuAN
	EchAN
	EcrAN
	HfbAN
	HtbAN
	HtbAU
	MfrAN
	MgdAN
	MhbA
	MvhAN
	MwzAN
	WrxAN
Ma	PxlA
Mc	AbhAU
	HfbAU
	HtbAU
	MfrAU
	MvhAU
	PaaAU
Mf	MhaA
	MvkA
	UkaA
Mg	MhbA
	UkaA
Mp	ReyA
OsA	OlcA
	UkxA
OsB	OlcB
	UkxB
OsC2	OlcC2
Pa	AatAN
	AbhAN
	ApuAN
	HfbAN
	HtbAN
	MfrAN
	MhbA
	MvhAN
	PaaAN
	PaaAU

Kankakee OWP	
Field Symbol	Publication Symbol
Qu	QujA
	W
Re	ReyA
	UgrA
Rm	HfbAN
	MfrAN
	RenA
	UgrA
Te	BteA
	MvkA
	UgaA
TrA	TmpA
TrB	TmpB
TrC2	TmpC2
Tx	TnwA
	UmxA
TyA	CnbB
	UfhB
TyC	CnbC
	UfhC
TyD	CnbD
W	W
Wk	WrxAN
Ws	SnlA
Wt	WtbA
XXX	PxlA
	Pxo

Maxinkuckee EM	
Field Symbol	Publication Symbol
Ad	AbhAN
	AbhAU
	PaaAN
	W
AeA	AxvA
	UdzA
Am	AahAK
	CmbAI
Au	SdzA
	RopB
BbA	CvdA
Bd	BshA
BeA	BsxA
Br	BuuA
	UfbA
ChA	CnbB
ChC	CnbC
CoA	MfaA
	UhwA
CtA	CvdA
	UeaA
CtB	CvdB
	UeaA
De	DcrA
	UfrA
Ed	EchAU
Gf	GczA
GP	Pmg
HdA	HkkA
HdB	HkkB
	UhmB
HeC2	HknC2
	UhoC
HeD2	HknD2
	UhoD
Hm	HtbAU
Ho	HtbAN
	HtbAU
	MvhAN
La	AahAK
Ma	PxlA
Mc	HtbAN
	HtbAU
	W

See the “Landform Boundary Map”.

Maxinkuckee EM	
Field Symbol	**Publication Symbol**
MeA	MfaA
	UhwA
MeB2	MfaB2
	UhwB
MeC2	MfaC2
	UhwC
Mg	MhbA
MkB	RoqB
MmB	UnqB
	WobB
MmC2	MmbC2
	RopB
	WoaC2
MoC3	MmdC3
MoD3	MmdD3
Mp	MouA
	RopB
	UkeA
MrB2	RopB
MrC2	RopC2
OsA	OkrA
	UkxA
OsB	OkrB
	UkxB
OsC2	OkrC2
	UkxC
OsD	OkrD
Pa	HtbAN
	PaaAN
Qu	BshA
Re	ReyA
	RopB
	UgrA
Rm	RenA
RtA	RopA
	UgsA
RtB	RopB
	UgsB
RtC2	RoqC2
	UmfC
RtD2	RoqD2
TrA	OkrA
TrB	OkrB

Maxinkuckee EM	
Field Symbol	**Publication Symbol**
TrC2	OkrC2
Tx	TnwA
	UmxA
TyA	TxuB
	UgvB
TyC	TxuC
	UgvC
TyD	TxuD
W	W
Wk	WrxAN
Ws	RopB
	SnlA
	UmuA
Wt	UnoA
	WtbA
XXX	CvdA
	HtbAN
	HtbAU
	PaaAU
	PxlA
	Pxo
	UgsA
	WoaB2
	WoaC2

Maxinkuckee OWP	
Field Symbol	**Publication Symbol**
Ad	AbhAN
	AbhAU
	EchAN
	HtbAU
AeA	AxvA
Am	CmbAI
	JaaAK
	WcnAI
Bd	BshA
BeA	BsxA
ChA	TxuB
ChC	TxuC
CoA	CrrA
CtB	CvdB
Ed	EchAN
	EchAU
	EcrAN
	MfrAN
EsA	EmeA
FsA	TmpA
FsB	Pmg
	TmpB
Gf	GczA
Gp	OlcB
	Pmg
	Pxo
HdB	TmpB
Hm	HtbAU
Ho	AbhAN
	HtbAN
	HtbAU
	MfrAN
	MwzAN
La	JaaAK
Ma	Pxo
Mc	AbhAU
	EchAU
	HtbAU
	MfrAU
	W
MeB2	OlcB
MeC2	OlcC2
Mf	MhaA
Mg	MhbA
MkB	CvdB

See the “Landform Boundary Map”.

Maxinkuckee OWP	
Field Symbol	**Publication Symbol**
Mp	MouA
OsA	OlcA
OsB	OlcB
OsC2	OlcC2
OsD	OlcD
Pa	AbhAN
	EchAN
	PaaAN
	PaaAU
Qu	QujA
Re	HtbAU
	ReyA
Rm	RenA
RtC2	HkkB
Te	BteA
TrA	TmpA
TrB	TmpB
TrC2	TxuC
Tx	TnwA
TyA	CnbB
TyC	CnbC
TyD	OlcD
W	W
Wk	WrxAN
Ws	SnlA
Wt	WtbA
XXX	HtbAU
	PxlA
	Pxo

St. Joseph OWP	
Field Symbol	**Publication Symbol**
Ad	AbhAN
	AbhAU
	ApuAN
	EcrAN
	MfrAN
	PxlA
AeA	AxvA
	BshA
	MvkA
	UdzA
Am	AahAK
	CmbAI
	PxlA
	WcnAI
Bd	MvkA
	UgaA
	W
BeA	BsxA
	UdkA
	UewA
ChA	CnbA
	OmgA
	TxuA
	TxuB
	UfhA
	UglA
	UgvA
	UgvB
ChC	TxuC
	UgvC
CoA	AxvA
	UdzA
Ed	AbhAN
	EcrAN
	EcrAU
	MfrAN
EsA	MsaA
	UfzA
FsA	UkxA
	Usl
FsB	Pxo
	UkxB
Gf	CmbAI
	GczA
	MvkA
	PxlA
	UeqA

St. Joseph OWP	
Field Symbol	**Publication Symbol**
GP	Pmg
	Pxo
HeD2	TxuC
	UgvC
Ho	AbhAN
	ApuAN
	HtbAN
	HtbAU
Hm	HtbAU
La	AahAK
	TxuB
	TxuF
Ma	Pxo
Mc	AbhAN
	AbhAU
Mf	MgcA
	PxlA
	UkaA
Mg	MhbA
	PxlA
	UkaA
Mp	MouA
	UkeA
OsA	BaaA
	OmgA
	TxuA
	TxuB
	UglA
	UgvA
	UgvB
OsB	BaaB
	TxuB
	UgvB
OsC2	TxuB
	TxuC
	UgvC
OsD	UgvD
Pa	AbhAN
	EcrAU
	HtbAU
	PaaAN
	PxlA
Qu	QujA
Re	GczA
	PxlA
	UeqA

See the “Landform Boundary Map”.

St. Joseph OWP	
Field Symbol	**Publication Symbol**
Rm	GdnA
	UeqA
Te	MvkA
	UgaA
TrA	TxuA
	UgvA
TrB	UgvB
TrC2	UgvC
Tx	AxvA
	UdzA
TyA	TxuA
	TxuB
	OmgA
	UglA
	UgvA
	UgvB
TyC	TxuC
	UgvC
TyD	TxuD
	UgvD
W	W
Wk	UntA
Ws	SnlA
	UmuA
Wt	UgaA
XXX	Pxo

Valparaiso EM	
Field Symbol	**Publication Symbol**
AeA	RopA
Am	CmbAI
BbA	BmgA
	CvdA
	CvdB
	HtbAU
	RopB
CtB	BmgA
Gf	SnlA
HdB	RopB
HeC2	RopC2
HeD2	RopD2
Ho	EchAN
	HtbAN
	HtbAU
Mc	BmgA
	HtbAU
	MouA
	PaaAU
	ReyA
	WrxAN
MeB2	MfaB2
MmB	RopB
MmC2	RopC2
MoC3	MtsC2
Mp	BmgA
	MouA
	PaaAU
	ReyA
	RopD2

Valparaiso EM	
Field Symbol	**Publication Symbol**
MrB2	MtsB2
	RopB
MrC2	MtsC2
	RopB
	RopC2
MsD3	MubD3
OsA	TxuB
Pa	PaaAU
Re	ReyA
RtA	RopA
	RopB
RtB	RopA
	RopB
RtC2	RopC2
	RopD2
RtD2	RopD2
TrA	RopA
W	W
Wk	BshA
	WrxAN
Ws	BshA
	SnlA
	WrxAN
XXX	TxuA

See the “Landform Boundary Map”.

MLRA 98 and 111
ST. JOSEPH COUNTY SUBSET
ALPHABETICAL IDENTIFICATION LEGEND

Publication Symbol	Map unit name	DMU ID
AahAK	Abscota loamy sand, 0 to 2 percent slopes, occasionally flooded, brief duration	124,238
AatAN	Ackerman muck, drained, 0 to 1 percent slopes	154,139
AbhAN	Adrian muck, drained, 0 to 1 percent slopes	155,040
AbhAU	Adrian muck, undrained, 0 to 1 percent slopes	155,041
ApuAN	Antung muck, drained, 0 to 1 percent slopes	152,934
AxvA	Auten loam, 0 to 1 percent slopes	401,618
BaaA	Bainter sandy loam, 0 to 1 percent slopes	124,241
BaaB	Bainter sandy loam 1 to 4 percent slopes	124,242
BaaC2	Bainter sandy loam, 4 to 10 percent slopes, eroded	401,574
BbmA	Baugo silt loam, 0 to 1 percent slopes	124,243
BmgA	Blount silt loam, 0 to 2 percent slopes	401,575
BshA	Brady sandy loam, 0 to 1 percent slopes	124,246
BsxA	Brems-Morocco loamy sands, 0 to 1 percent slopes	401,576
BteA	Brems loamy sand, 0 to 1 percent slopes	124,247
BuuA	Brookston loam, 0 to 1 percent slopes	155,039
CmbAI	Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration	154,148
CnbA	Coloma sand, 0 to 2 percent slopes	124,256
CnbB	Coloma sand, 2 to 5 percent slopes	124,257
CnbC	Coloma sand, 5 to 10 percent slopes	124,258
CnbD	Coloma sand, 10 to 18 percent slopes	401,577
CrrA	Coupee silt loam, 0 to 1 percent slopes	401,629
CvdA	Crosier loam, 0 to 1 percent slopes	124,261
CvdB	Crosier loam, 1 to 4 percent slopes	124,262
CwkA	Crumstown fine sandy loam, 0 to 1 percent slopes	401,650
CwkB	Crumstown fine sandy loam, 1 to 5 percent slopes	401,651
DcrA	Del Rey silty clay loam, 0 to 1 percent slopes	124,263
EchAN	Edwards muck, drained, 0 to 1 percent slopes	154,985
EchAU	Edwards muck, undrained, 0 to 1 percent slopes	154,986
EcrAN	Edselton muck, drained, 0 to 1 percent slopes	152,937
EcrAU	Edselton muck, undrained, 0 to 1 percent slopes	152,938
EmeA	Elston sandy loam, 0 to 1 percent slopes	401,630

GczA	Gilford sandy loam, 0 to 1 percent slopes	124,268
GdnA	Gilford mucky sandy loam, 0 to 1 percent slopes	124,269
HfbAN	Henrietta muck, drained, 0 to 1 percent slopes	401,612
HfbAU	Henrietta muck, undrained, 0 to 1 percent slopes	401,666
HkkA	Hillsdale sandy loam, 0 to 1 percent slopes	401,664
HkkB	Hillsdale sandy loam, 1 to 5 percent slopes	401,663
HknC2	Hillsdale-Oshtemo sandy loams, 5 to 10 percent slopes, eroded	401,751
HknD2	Hillsdale-Oshtemo sandy loams, 10 to 18 percent slopes, eroded	401,752
HkpC2	Hillsdale-Tracy sandy loams, 5 to 10 percent slopes, eroded	401,754
HkpD2	Hillsdale-Tracy sandy loams, 10 to 18 percent slopes, eroded	401,755
HtbAN	Houghton muck, drained, 0 to 1 percent slopes	155,023
HtbAU	Houghton muck, undrained, 0 to 1 percent slopes	155,024
JaaAK	Jamestown silt loam, 0 to 1 percent slopes, occasionally flooded, brief duration	124,278
MfaA	Martinsville loam, 0 to 1 percent slopes	401,639
MfaB2	Martinsville loam, 1 to 5 percent slopes, eroded	401,640
MfaC2	Martinsville loam, 5 to 10 percent slopes, eroded	401,641
MfrAN	Madaus muck, drained, 0 to 1 percent slopes	155,026
MfrAU	Madaus muck, undrained, 0 to 1 percent slopes	155,025
MgcA	Maumee loamy sand, 0 to 1 percent slopes	124,282
MgdAN	Martisco muck, drained, 0 to 1 percent slopes	394,043
MhaA	Maumee loamy fine sand, 0 to 1 percent slopes	154,992
MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes	154,993
MmbC2	Miami loam, 5 to 10 percent slopes, eroded	124,283
MmdC3	Miami clay loam, 5 to 10 percent slopes, severely eroded	124,284
MmdD3	Miami clay loam, 10 to 18 percent slopes, severely eroded	124,286
MouA	Milford silty clay loam, 0 to 1 percent slopes	155,022
MsaA	Mishawaka sandy loam, 0 to 1 percent slopes	124,288
MtsB2	Morley silt loam, 2 to 6 percent slopes, eroded	401,647
MtsC2	Morley silt loam, 6 to 12 percent slopes, eroded	401,648
MubD3	Morley silty clay loam, 12 to 18 percent slopes, severely eroded	401,649
MvhAN	Moston muck, drained, 0 to 1 percent slopes	154,144
MvhAU	Moston muck, undrained, 0 to 1 percent slopes	154,145
MvkA	Morocco loamy sand, 0 to 1 percent slopes	124,289
MwzAN	Muskego muck, drained, 0 to 1 percent slopes	155,035
MwzAU	Muskego muck, undrained, 0 to 1 percent slopes	155,036

OkrA	Oshtemo fine sandy loam, 0 to 1 percent slopes	401,661
OkrB	Oshtemo fine sandy loam, 1 to 5 percent slopes	401,662
OkrC2	Oshtemo fine sandy loam, 5 to 10 percent slopes, eroded	401,741
OkrD	Oshtemo fine sandy loam, 10 to 18 percent slopes	401,742
OlcA	Oshtemo sandy loam, 0 to 1 percent slopes	401,771
OlcB	Oshtemo sandy loam, 1 to 5 percent slopes	401,772
OlcC2	Oshtemo sandy loam, 5 to 10 percent slopes, eroded	401,773
OlcD	Oshtemo sandy loam, 10 to 18 percent slopes	401,774
OmgA	Osolo loamy sand, 0 to 1 percent slopes	124,293
PaaAN	Palms muck, drained, 0 to 1 percent slopes	124,295
PaaAU	Palms muck, undrained, 0 to 1 percent slopes	401,578
Pmg	Pits, Gravel	155,038
PxlA	Psammaquents	151,931
Pxo	Psamments	151,930
QuiA	Quinn loam, 0 to 1 percent slopes	401,633
QujA	Quinn sandy loam, 0 to 1 percent slopes	401,779
RenA	Rensselaer mucky loam, 0 to 1 percent slopes	401,579
ReyA	Rensselaer loam, 0 to 1 percent slopes	155,043
RopA	Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes	125,310
RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes	125,311
RopC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded	401,580
RopD2	Riddles-Oshtemo fine sandy loams, 10 to 18 percent slopes, eroded	401,781
RoqB	Riddles-Metea complex, 1 to 5 percent slopes	401,581
RoqC2	Riddles-Metea complex, 5 to 10 percent slopes, eroded	125,312
RoqD2	Riddles-Metea complex, 10 to 18 percent slopes, eroded	125,313
SdzA	Selfridge-Crosier complex, 0 to 1 percent slopes	124,305
SdzaB	Selfridge-Brems loamy sands, 1 to 4 percent slopes	124,306
SesA	Schoolcraft loam, 0 to 1 percent slopes	401,667
SnlA	Southwest silt loam, 0 to 1 percent slopes	155,046
TmpA	Tracy sandy loam, 0 to 1 percent slopes	401,642
TmpB	Tracy sandy loam, 1 to 5 percent slopes	401,643
TmpC2	Tracy sandy loam, 5 to 10 percent slopes, eroded	401,644
TmpD	Tracy sandy loam, 10 to 18 percent slopes	401,646
TnwA	Troxel silt loam, 0 to 1 percent slopes	401,645
TxuA	Tyner loamy sand, 0 to 1 percent slopes	124,308

TxuB	Tyner loamy sand, 1 to 5 percent slopes	124,309
TxuC	Tyner loamy sand, 5 to 10 percent slopes	124,310
TxuD	Tyner loamy sand, 10 to 18 percent slopes	124,311
TxuF	Tyner loamy sand, 18 to 45 percent slopes	124,312
Uam	Udorthents, loamy	124,313
UdeA	Urban land-Bainter complex, 0 to 1 percent slopes	124,316
UdeB	Urban land-Bainter complex, 1 to 4 percent slopes	401,792
UdeC	Urban land-Bainter complex, 4 to 10 percent slopes	401,793
UdkA	Urban land-Brady complex, 0 to 1 percent slopes	124,317
UdzA	Urban land-Auten complex, 0 to 1 percent slopes	401,791
UeaA	Urban land-Crosier complex, 0 to 3 percent slopes	124,321
UeqA	Urban land-Gilford complex, 0 to 1 percent slopes	124,322
UewA	Urban land-Brems-Morocco complex, 0 to 1 percent slopes	401,795
UfbA	Urban land-Brookston complex, 0 to 1 percent slopes	401,796
UfhA	Urban land-Coloma complex, 0 to 2 percent slopes	401,797
UfhB	Urban land-Coloma complex, 2 to 5 percent slopes	402,175
UfhC	Urban land-Coloma complex, 5 to 10 percent slopes	401,798
UfmA	Urban land-Coupee complex, 0 to 1 percent slopes	401,799
UfrA	Urban land-Del Rey complex, 0 to 1 percent slopes	401,800
UftA	Urban land-Elston complex, 0 to 1 percent slopes	401,801
UfzA	Urban land-Mishawaka complex, 0 to 1 percent slopes	124,324
UgaA	Urban land-Morocco complex, 0 to 1 percent slopes	124,325
UglA	Urban land-Osolo complex, 0 to 1 percent slopes	124,327
UgrA	Urban land-Rensselaer complex, 0 to 1 percent slopes	124,326
UgsA	Urban land-Riddles-Oshtemo complex, 0 to 1 percent slopes	401,582
UgsB	Urban land-Riddles-Oshtemo complex, 1 to 5 percent slopes	125,315
UgvA	Urban land-Tyner complex, 0 to 1 percent slopes	124,329
UgvB	Urban land-Tyner complex, 1 to 5 percent slopes	124,330
UgvC	Urban land-Tyner complex, 5 to 10 percent slopes	401,830
UgvD	Urban land-Tyner complex, 10 to 18 percent slopes	401,831
UhmA	Urban land-Hillsdale complex, 0 to 1 percent slopes	402,176
UhmB	Urban land-Hillsdale complex, 1 to 5 percent slopes	401,804
UhoC	Urban land-Hillsdale-Oshtemo complex, 5 to 10 percent slopes	401,806
UhoD	Urban land-Hillsdale-Oshtemo complex, 10 to 18 percent slopes	401,805
UhpC	Urban land-Hillsdale-Tracy complex, 5 to 10 percent slopes	401,807

UhpD	Urban land-Hillsdale-Tracy complex, 10 to 18 percent slopes	401,808
UhwA	Urban land-Martinsville complex, 0 to 1 percent slopes	401,809
UhwB	Urban land-Martinsville complex, 1 to 5 percent slopes	401,810
UhwC	Urban land-Martinsville complex, 5 to 10 percent slopes	401,811
UkaA	Urban land-Maumee complex, 0 to 1 percent slopes	401,812
UkeA	Urban land-Milford complex, 0 to 1 percent slopes	401,813
UkxA	Urban land-Oshtemo complex, 0 to 1 percent slopes	401,818
UkxB	Urban land-Oshtemo complex, 1 to 5 percent slopes	401,819
UkxC	Urban land-Oshtemo complex, 5 to 10 percent slopes	401,820
UmfB	Urban land-Riddles-Metea complex, 1 to 5 percent slopes	402,177
UmfC	Urban land-Riddles-Metea complex, 5 to 10 percent slopes	401,822
UmfD	Urban land-Riddles-Metea complex, 10 to 18 percent slopes	402,178
UmpA	Urban land-Schoolcraft complex, 0 to 1 percent slopes	401,823
UmuA	Urban land-Southwest complex, 0 to 1 percent slopes	401,824
UmwA	Urban land-Tracy complex, 0 to 1 percent slopes	401,825
UmwB	Urban land-Tracy complex, 1 to 5 percent slopes	401,826
UmwC	Urban land-Tracy complex, 5 to 10 percent slopes	401,827
UmwD	Urban land-Tracy complex, 10 to 18 percent slopes	401,828
UmxA	Urban land-Troxel complex, 0 to 1 percent slopes	401,829
UnoA	Urban land-Whitaker complex, 0 to 1 percent slopes	401,832
UnqB	Urban land-Williamstown-Crosier complex, 1 to 5 percent slopes	401,833
UntA	Urban land-Wunabuna complex, 0 to 1 percent slopes	401,834
Usl	Udorthents, rubbish	151,589
W	Water, unclassified	124,336
WcnAI	Waterford loam, 0 to 2 percent slopes, frequently flooded, long duration	124,335
WoaA	Williamstown loam, 0 to 1 percent slopes	124,337
WoaB2	Williamstown loam, 1 to 5 percent slopes, eroded	401,583
WoaC2	Williamstown loam, 5 to 10 percent slopes, eroded	124,339
WobB	Williamstown-Crosier loams, 1 to 5 percent slopes	124,338
WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes	155,047
WtbA	Whitaker loam, 0 to 1 percent slopes	401,634
WujB	Williamstown-Moon complex, 1 to 5 percent slopes	401,788

LABORATORY PEDONS SAMPLED
FOR ST. JOSEPH COUNTY SUBSET

Sampled As	Lab Number	Approved name	County	State	OSD	MLRA
Auten	S01IN141-003	Auten	St. Joseph	IN	Yes	98
Crumstown	S01IN141-002	Crumstown	St. Joseph	IN	Yes	111
Gilford	S01IN141-004	Gilford	St. Joseph	IN	Yes	98
Hillsdale	S01MI149-001	Hillsdale	St. Joseph	MI	Yes	111
Martisco	S01IN141-001	Martisco	St. Joseph	IN	No	98 rep
Schoolcraft	S01MI077-001	Schoolcraft	Kalamazoo	MI	Yes	98

OSD = National Type Locaiton Of The Official Soil Series Descriptions
rep = MLRA Representative Location

Notes to accompany the
Classification and Correlation
Of the Soils of
St. Joseph County, Indiana
Prepared by Shane L. McBurnett and Rex A. Brock

ABSCOTA SERIES:

The typical pedon is from Kent County, Michigan (OSD). The Headwaters MLRA Soil Survey Project staff attempted to transect the type location, it was determined that a new location is needed. The existing type location has been destroyed by urbanization. Many of the areas that were mapped Landes, and some of the alluvial land in the 1977 St. Joseph County Soil Survey were remapped as Abscota.

ACKERMAN SERIES:

The typical pedon is from White County, Indiana (OSD) and represents MLRA 98 and 111. Ackerman replaced several series when the organic soils were remapped. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

ADRIAN SERIES:

The typical pedon is from Gratiot County, Michigan (OSD). Adrian replaced several series when the organic soils were remapped. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Lab data should be acquired for this OSD type location.

ANTUNG SERIES:

The typical pedon is from Pulaski County, Indiana (OSD) and represents MLRA 98 and 111. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Antung replaced several series when the organic soils were remapped.

AUTEN SERIES:

The Auten series is established by this correlation for Alida with contrasting textures within 40 inches. The typical pedon is located in St. Joseph County, Indiana (OSD) and represents MLRA 98.

BRADY SERIES:

The typical pedon is from Eaton County, Michigan (OSD). This series was correlated in the 1977 soil survey. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Lab data should be acquired for this OSD type location.

BREMS SERIES:

The typical pedon is from Elkhart County, Indiana (OSD). This series was correlated in the 1977 soil survey. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

BROOKSTON SERIES:

The typical pedon is from Elkhart County, Indiana (OSD). This series was correlated in the 1977 soil survey. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

BAINTER SERIES:
The typical pedon is from Elkhart County, Indiana (OSD). Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. This soil correlated in the Edwardsburg outwash plain for soils mapped as Fox, Oshtemo, and Tracy in the 1977 soil survey.

Notes to accompany the
Classification and Correlation
Of the Soils of
St. Joseph County, Indiana

BAUGO SERIES:

The typical pedon is from Elkhart County, Indiana (OSD). Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. This soil correlated in the Ground moraine for soils mapped as Whitaker in the 1977 St. Joseph County soil survey.

BLOUNT SERIES:

The typical pedon is from Mercer County, Ohio (OSD) and represents The St. Joseph County Subset. Laboratory and Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

COHOCTAH SERIES:

The typical pedon is from Ottawa County, Michigan (OSD). Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Lab data should be acquired for this OSD type location. Many of the areas that were mapped alluvial land in the 1977 St. Joseph County soil survey were remapped as Cohoctah. These soils were mapped both along the St. Joseph and the Kankakee Rivers.

COLOMA SERIES:

The typical pedon is from Elkhart County, Indiana and represents MLRA 98. Laboratory and Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. This soil correlated in the Kame-Eskers, Kankakee outwash plain, and the Maxinkuckee end moraine for soils mapped as Chelsea in the 1977 St. Joseph County soil survey. Also correlated in the Kankakee outwash plain and the Maxinkuckee outwash plain for soils mapped Tyner in the 1977 St. Joseph County soil survey.

COUPEE SERIES:

The typical pedon is from St. Joseph County, Indiana (OSD) and represents MLRA 98. This series was established by the correlation of the 1977 St. Joseph County Soil Survey. Laboratory and transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

CRUMSTOWN SERIES:

The Crumstown series is established by this correlation for coarse-loamy soils, developed from glacial outwash on the Ground Moraine that have hydromorphic features between the depths of 40 and 80 inches. The typical pedon is located in St Joseph County, Indiana (OSD) and represents MLRA 111.

CROSIER SERIES:

The typical pedon is from St. Joseph County, Indiana (OSD) and was correlated in 1977. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

DEL REY SERIES:

The typical pedon is from Elkhart County and represents MLRA 111. Laboratory and Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. The OSD is located outside MLRA 111.

EDSELTON SERIES:

The typical pedon is located in Pulaski County, Indiana (OSD) and represents MLRA 98 and 111. Edselton replaced several series when the organic soils were remapped. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

Notes to accompany the
Classification and Correlation
Of the Soils of
St. Joseph County, Indiana

EDWARDS SERIES:

The typical pedon was moved from Washtenaw County, Michigan to Jackson County, Michigan (OSD). This series was correlated in the 1977 soil survey. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Edwards replaced several series when the organic soils were remapped.

ELSTON:

The typical pedon is from Vigo County, Indiana (OSD). This soil is correlated on the Edwardsburg and Maxinkuckee outwash plains for soils mapped as Elston in the 1977 St. Joseph County soil survey.

GILFORD SERIES:

The typical pedon is from St. Joseph County, Indiana (OSD) and represents MLRA 98 and 111. This series was correlated in the 1977 St. Joseph County soil survey. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Lab data should be acquired for this OSD type location.

HENRIETTA SERIES:

The typical pedon is from Jackson, County, Michigan (OSD). A transect is needed of the OSD site and the pedon described down to 80 inches. Henrietta replaced several series when the organic soils were remapped.

HILLSDALE SERIES:

The typical pedon is from St. Joseph County, Michigan (OSD). The typical pedon was moved from Jackson County, Michigan to St. Joseph County, Michigan because the Jackson County site had residential development on the type location and laboratory data was not available. The new pedon was described and sampled for analysis at the National Soil Survey Laboratory. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

HOUGHTON SERIES:

The typical pedon is from Clinton County, Michigan (OSD). This series was correlated in the 1977 St. Joseph County soil survey. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Lab data should be acquired for this OSD type location. Houghton replaced several series when the organic soils were remapped

JAMESTOWN SERIES:

The typical pedon is from Elkhart County, Indiana (OSD). Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Jamestown replaces soils mapped as Alluvial soils in the Ground moraine.

MADAUS SERIES:
The typical pedon is from Elkhart County, Indiana (OSD). The map units will be renamed in Elkhart County. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Madaus replaced several series when the organic soils were remapped.

Notes to accompany the
Classification and Correlation
Of the Soils of
St. Joseph County, Indiana

MAUMEE SERIES:

The typical pedon is from Porter County, Indiana (OSD) and represents MLRA 98. This series was correlated in the 1977 soil survey. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

MARTINSVILLE SERIES:

The typical pedon is from Hendricks County, Indiana (OSD). This series was correlated in the 1977 St. Joseph County soil survey.

MARTISCO SERIES:

The typical pedon is from St. Joseph County, Indiana and represents MLRA 98 and 111. The typical pedon has been sampled for analasis in the National Soil Survey Laboratory. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. The OSD is located outside MLRA'S 98 and 111. Martisco replaced several series when the organic soils were remapped

METEA SERIES:

The typical pedon is from Marshall County, Indiana (OSD) and represents MLRA 111. This series was correlated in the 1977 soil survey. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Lab data should be acquired for this OSD type location.

MIAMI SERIES:

The typical pedon is from Hendricks County, Indiana (OSD) and represents MLRA 111. This series was correlated in the 1977 soil survey. Lab data should be acquired for this OSD type location.

MILFORD SERIES:

The typical pedon is from Iroquois County, Illinois (OSD). In the Valparaiso End Moraine Milford is correlated in the small depressions surrounded by sloping Morley side slopes. Lacustrine materials predominate with inclusions of areas with thin or no mollics and areas with substratums derived from clay loam till.

MISHAWAKA SERIES:

The typical pedon is from Elkhart County, Indiana (OSD). Laboratory and transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. This soil is correlated on the St. Joseph outwash plain for soils mapped as Elston in the 1977 St. Joseph County soil survey.

MOON SERIES:

The typical pedon is located in Pulaski County, Indiana (OSD) and represents MLRA 98 and 111. Moon replaced the Metea wet substratum phase. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

MORLEY SERIES:
The typical pedon is from Adams County, Indiana (OSD). This series was correlated in the 1977 soil survey.

Notes to accompany the
Classification and Correlation
Of the Soils of
St. Joseph County, Indiana

MOROCCO SERIES:

The typical pedon is from Jasper County, Indiana (OSD) and represents MLRA 98. On the Kankakee outwash plain, Brems was correlated to Morocco. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

MOSTON SERIES:

The typical pedon is located in Pulaski County, Indiana (OSD) and represents MLRA 98 and 111. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Moston replaced several series when the organic soils were remapped.

MUSKEGO SERIES:

The typical pedon is from Elkhart County, Indiana and represents MLRA 98 and 111. This pedon (S94IN039-012) was described and sampled during the Elkhart County soil survey update. The lab data is available at the National Soil Survey Laboratory. The OSD is located outside MLRA 111. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Muskego replaced several series when the organic soils were remapped.

OSHTEMO SERIES:

The typical pedon is from St. Joseph County, Michigan (OSD). A transect is needed of the OSD site and the pedon described down to 80 inches. This series was correlated in the 1977 soil survey.

OSOLO SERIES:

The typical pedon is from Elkhart County, Indiana (OSD). This soil is correlated where Tyner soils are mapped with redoxymorphic features between 40 and 80 inches.

PALMS SERIES:

The typical pedon is from Gratiot County, Michigan (OSD). Palms replaced several series when the organic soils were remapped.

RENSSELAER SERIES:

The typical pedon is from Marshall County, Indiana (OSD) and represents MLRA 98 and 111. This series was correlated in the 1977 soil survey. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Glacial till was found at this type location, a new type location should be determined. Lab data should be acquired for the OSD type location.

RIDDLES SERIES:

The typical pedon is from Elkhart County, Indiana (OSD) and represents MLRA 111. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. A Riddles study was conducted during the Elkhart County Subset Update where 15 Riddles locations were sampled. This data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Riddles replaces some of those soils previously correlated as Miami.

Notes to accompany the
Classification and Correlation
Of the Soils of
St. Joseph County, Indiana

SCHOOLCRAFT:

The typical pedon is from Kalamazoo County, Michigan (OSD).This pedon was redescribed and sampled for analasis at the National Soil Survey Laboratory. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. This soil is correlated on the Edwardsburg outwash plain for soils mapped as Coupee in the 1977 St. Joseph County soil survey.

SELFRIDGE SERIES:

The typical pedon is from Monroe County, Michigan (OSD) and represents MLRA 99 and 111. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Lab data should be acquired for this OSD type location. Selfridge partially replaces Brems, Aubbeenaubbee, and Chelsea on the ground moraine.

SOUTHWEST SERIES:

The typical pedon is from Elkhart County, Indiana (OSD) and represents MLRA 111. Southwest replaces those soils previously correlated as Washtenaw. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

TROXEL:

The typical pedon is from McHenry County, Illinois; (OSD) and represents MLRA 98. This series was correlated in the 1977 soil survey. Thickness of the silt loam overwash is quite variable in St. Joseph County.

TRACY:

The typical pedon is from Porter County, Indiana (OSD). This series was correlated in the 1977 St. Joseph County soil survey. Laboratory and Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Added CEC class of "Active" to the taxonomic classification.

TYNER SERIES:

The typical pedon is from Elkhart County, Indiana(OSD). This series was correlated in the 1977 St. Joseph County soil survey.

QUINN SERIES:

The typical pedon is from St. Joseph County, Indiana (OSD) and represents MLRA 98. This series was correlated in the 1977 St. Joseph County Soil Survey. Laboratory and transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Added CEC class of "Active" to the taxonomic classification.

WATERFORD SERIES:

The typical pedon is from Elkhart County, Indiana(OSD). Some of the areas that were mapped alluvial land in the 1977 St. Joseph County soil survey were remapped as Waterford.

Notes to accompany the
Classification and Correlation
Of the Soils of
St. Joseph County, Indiana

WHITAKER SERIES:

The typical pedon is from Marshall County, Indiana (OSD) and represents MLRA 98 and 111. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Lab data should be acquired for this OSD type location. This soil correlated in the Kame-Eskers, Kankakee Outwash Plain, Maxinkuckee Outwash Plain, and the Maxinkuckee End Moraine for soils for soils mapped as Whitaker in the 1977 St. Joseph County soil survey.

WILLIAMSTOWN SERIES:

The typical pedon is from Elkhart County, Indiana and represents the northern part of MLRA 111. This pedon (S93IN039-001) was described and sampled during the Elkhart County soil survey update. The Elkhart County pedon better represents the Williamstown in northern Indiana. The OSD type location, not used, is in Decatur County, Indiana. The lab data is available at the National Soil Survey Laboratory. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana.

WUNABUNA SERIES:

The typical pedon is from Elkhart County, Indiana (OSD) and represents MLRA 111. Transect data is on file in the Headwaters MLRA Project Office in Plymouth, Indiana. Wunabuna replaces those soils previously correlated as Wallkill.

CLASSIFICATION OF THE SOILS
OF
ST. JOSEPH COUNTY, INDIANA

Series Name	Family or higher taxonomic class
Abscota	Mixed, mesic Oxyaquic Udipsamments
Ackerman	Sandy, mixed, mesic Histic Humaquepts
Adrian	Sandy or sandy-skeletal, mixed, euic, mesic Terric Haplosaprists
Antung	Sandy, mixed, mesic Histic Humaquepts
Auten	Fine-loamy over sandy or sandy-skeletal, mixed, active, mesic Aquollic Hapludalfs
Bainter	Coarse-loamy, mixed, semiactive, mesic Mollic Hapludalfs
Baugo	Fine-loamy, mixed, active, mesic Aeric Epiaqualfs
Blount	Fine, illitic, mesic Aeric Epiaqualfs
Brady	Coarse-loamy, mixed, active, mesic Aquollic Hapludalfs
Brems	Mixed, mesic Aquic Udipsamments
Brookston	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
Cohoctah	Coarse-loamy, mixed, active, mesic Fluvaquentic Endoaquolls
Coloma	Mixed, mesic Lamellic Udipsamments
Coupee	Fine-loamy over sandy or sandy-skeletal, mixed, active, mesic Ultic Hapludalfs
Crosier	Fine-loamy, mixed, active, mesic Aeric Epiaqualfs
Crumstown	Coarse-loamy, mixed, active, mesic Typic Hapludalfs
Del Rey	Fine, illitic, mesic Aeric Epiaqualfs
Edselton	Marly, euic, mesic Limnic Haplosaprists
Edwards	Marly, euic, mesic Limnic Haplosaprists
Elston	Coarse-loamy, mixed, active, mesic Typic Argiudolls
Gilford	Coarse-loamy, mixed, superactive, mesic Typic Endoaquolls
Henrietta	Coarse-loamy, mixed, superactive, nonacid, mesic Histic Humaquepts
Hillsdale	Coarse-loamy, mixed, active, mesic Typic Hapludalfs
Houghton	Euic, mesic Typic Haplosaprists
Jamestown	Fine-loamy, mixed, superactive, nonacid, mesic Aeric Epiaquepts
Madaus	Coarse-silty over sandy or sandy-skeletal, carbonatic over mixed, mesic Histic Humaquepts
Martinsville	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Martisco	Fine-silty, carbonatic, mesic Histic Humaquepts
Maumee	Sandy, mixed, mesic Typic Endoaquolls
Metea	Loamy, mixed, active, mesic Arenic Hapludalfs
Miami	Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs
Milford	Fine, mixed, superactive, mesic Typic Endoaquolls
Mishawaka	Sandy, mixed, mesic Typic Hapludolls
Moon	Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs
Morley	Fine, illitic, mesic Oxyaquic Hapludalfs
Morocco	Mixed, mesic Aquic Udipsamments
Moston	Coprogenous, euic, mesic Limnic Haplosaprists
Muskego	Coprogenous, euic, mesic Limnic Haplosaprists
Oshtemo	Coarse-loamy, mixed, active, mesic Typic Hapludalfs
Osolo	Mixed, mesic Typic Udipsamments
Palms	Loamy, mixed, euic, mesic Terric Haplosaprists
Psammaquents	Mixed, mesic Typic Psammaquents
Psamments	Mixed, mesic Typic Udipsamments

CLASSIFICATION OF THE SOILS
OF
ST. JOSEPH COUNTY, INDIANA

Series Name	Family or higher taxonomic class
Quinn	Coarse-loamy, mixed, active, mesic Typic Endoaqualfs
Rensselaer	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
Riddles	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Schoolcraft	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Selfridge	Loamy, mixed, active, mesic Aquic Arenic Hapludalfs
Southwest	Fine-silty, mixed, superactive, nonacid, mesic Typic Fluvaquents
Tracy	Coarse-loamy, mixed, active, mesic Ultic Hapludalfs
Troxel	Fine-silty, mixed, superactive, mesic Pachic Argiudolls
Tyner	Mixed, mesic Typic Udipsamments
Udorthents, Loamy	Fine-loamy, mixed, semiactive, nonacid, mesic Typic Udorthents
Waterford	Coarse-loamy, mixed, active, mesic Fluvaquentic Eutrochrepts
Whitaker	Fine-loamy, mixed, active, mesic Aeric Endoaqualfs
Williamstown	Fine-loamy, mixed, active, mesic Aquic Hapludalfs
Wunabuna	Fine, mixed, superactive, nonacid, mesic Fluvaquentic Endoaquepts

CERTIFICATON STATEMENT

The MLRA Region 11 Team Leader certifies that:

A. The fieldwork activities were completed in September of 2001.

B. Interpretations have been coordinated and agree with adjoining survey areas.

C. The location of all typical pedons have been updated, checked for correct location, and for the soil delineations using that name. Typical pedons are those that represent the taxonomic units in MLRA's 98 and 111. Not all typical pedons are located in St. Joseph County, but are within other subsets of MLRA's 98 and 111.

D. All typical pedons are classified according to the Keys of Soil Taxonomy, Eighth edition, 1998.

E. The digital soil information has been reviewed for accuracy and consistency.

F. St. Joseph County detailed maps have been joined to detailed maps of all adjacent subsets. A detail account of the joins to the respective subset is attached to the file copies of the correlation memorandum in the Regional MLRA Offices, state offices, and field office.

G. Additional lab data was evaluated during this correlation within and surrounding subsets. This data is located at the Headwater Soil Survey Update Office.

H. Additional map unit doccumentation can be accessed in NASIS, using the map unit text note querry or by loading a map unit and viewing the map unit text notes.

Approval Signatures and Date

Travis Neely **Date**
MLRA Region 11 Team Leader/
State Soil Scientist
USDA, NRCS
Indianapolis, IN 46278

Jane E. Hardisty **Date**
State Conservationist
USDA, NRCS
Indianapolis, IN 46278

Attachment 1: STATEMENTS FOR JOINING OF THE ST. JOSEPH COUNTY SUBSET TO SURROUNDING SUBSETS

Berrien County, MI (1980): The Berrien County, MI Soil Survey, joining to the northwest, will accept the following St. Joseph County, IN map units. A record of the changes is recorded on soil maps and copies will be filed in Berrien County, MI. Soil Scientist from Michigan and Indiana agreed upon any changes from the original mapping.

The map units that will be added to **Berrien County, MI** Soil Survey are:

AbhAN	Adrian muck, drained, 0 to 1 percent slopes
AxvA	Auten loam, 0 to 1 percent slopes
BmgA	Blount silt loam, 0 to 1 percent slopes
BshA	Brady sandy loam, 0 to 1 percent slopes
BsxA	Brem-Morocco loamy sands, 0 to 1 percent slopes
CnbA	Coloma sand, 0 to 2 percent slopes
CrrA	Coupee silt loam, 0 to 1 percent slopes
CvdA	Crosier loam, 0 to 1 percent slopes
CvdB	Crosier loam, 1 to 4 percent slopes
EchAN	Edwards muck, drained, 0 to 1 percent slopes
GczA	Gilford sandy loam, 0 to 1 percent slopes
HkpC2	Hillsdale-Tracy sandy loams, 5 to 10 percent slopes, eroded
HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
MgcA	Maumee loamy sand, 0 to 1 percent slopes
MhbA	Maumee mucky loamy fine sand, 0 to1 percent slopes
MouA	Milford silty clay loam, 0 to 1 percent slopes
OlcC2	Oshtemo sandy loam, 5 to 10 percent slopes, eroded
OmgA	Osolo loamy sand, 0 to 1 percent slopes
PaaAU	Palms muck, undrained, 0 to 1 percent slopes
ReyA	Rensselaer loam, 0 to 1 percent slopes
RopA	Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes
RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
RopC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded
RopD2	Riddles-Oshtemo fine sandy loams, 10 to 18 percent slopes, eroded
SesA	Schoolcraft loam, 0 to 1 percent slopes
SnlA	Southwest silt loam, 0 to 1 percent slopes
TmpA	Tracy sandy loam, 0 to 1 percent slopes
TmpB	Tracy sandy loam, 1 to 5 percent slopes
TmpC2	Tracy sandy loam, 5 to 10 percent slopes, eroded
TmpD	Tracy sandy loam, 10 to 18 percent slopes
TnwA	Troxel silt loam, 0 to 1 percent slopes
TxuA	Tyner loamy sand, 0 to 1 percent slopes
TxuB	Tyner loamy sand, 1 to 5 percent slopes
TxuC	Tyner loamy sand, 5 to 10 percent slopes
TxuD	Tyner loamy sand, 10 to 18 percent slopes
TxuF	Tyner loamy sand, 18 to 45 percent slopes
UdkA	Urban land-Brady complex, 0 to 1 percent slopes
UeqA	Urban land-Gilford complex, 0 to 1 percent slopes
UgvA	Urban land-Tyner complex, 0 to 1 percent slopes
W	Water
WrxAN	Wunabuna silt loam, drained, 0 to 1 percent slopes

Cass County, MI (1991): The Cass County, MI Soil Survey, joining to the northeast, will accept the following St. Joseph County, IN map units. A record of the changes is recorded on soil maps and copies will be filed in Cass County, MI. Soil Scientist from Michigan and Indiana agreed upon any changes from the original mapping.

The map units that will be added to **Cass County, MI** Soil Survey are:

BaaA	Bainter sandy loam, 0 to 1 percent slopes
BaaB	Bainter sandy loam, 1 to 4 percent slopes
BaaC2	Bainter sandy loam, 4 to 10 percent slopes, eroded
BsxA	Brems-Morocco loamy sandy, 0 to 1 percent slopes
CmbAI	Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration
CnbA	Coloma sand, 0 to 2 percent slopes
CnbC	Coloma sand, 5 to 10 percent slopes
CnbD	Coloma sand, 10 to 18 percent slopes
EmeA	Elston sandy loam, 0 to 1 percent slopes
HkkB	Hillsdale sandy loam, 1 to 5 percent slopes
HkpC2	Hillsdale-Tracy sandy loams, 5 to 10 percent slopes, eroded
OmgA	Osolo loamy sand, 0 to 1 percent slopes
MvkA	Morocco loamy sand, 0 to 1 percent slopes
SesA	Schoolcraft loam, 0 to 1 percent slopes
TmpA	Tracy sandy loam, 0 to 1 percent slopes
TmpB	Tracy sandy loam, 1 to 5 percent slopes
TmpC2	Tracy sandy loam, 5 to 10 percent slopes, eroded
TxuA	Tyner loamy sand, 0 to 1 percent slopes
TxuB	Tyner loamy sand, 1 to 5 percent slopes
TxuC	Tyner loamy sand, 5 to 10 percent slopes
TxuD	Tyner loamy sand, 10 to 18 percent slopes

Elkhart County (2001): The Elkhart County Soil Survey, joining to the east, already has been joined with St. Joseph County map units. A record of the changes is recorded on soil maps and copies are filed in Elkhart County case file at the Headwaters MLRA Soil Survey Project Office.

The map units that will be modified in **Elkhart County** Soil Survey are (in red text):

AahAK	Abscota loamy sand, 0 to 2 percent slopes, occasionally flooded, brief duration
HhaAP	Histosols, 0 to 1 percent slopes, ponded - No longer joins. The only HhaAP polygon was re-mapped.
MmbC2	Miami loam, 5 to 10 percent slopes, eroded
RopB	Riddles-Oshtemo complex, 1 to 5 percent slopes – Renamed Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
Uba	Udorthents, sandy, wet substratum, 0 to 1 percent slopes – Renamed PxlA -Psammaquents, 0 to 1 percent slopes
Wct	Census water – Renamed W - Water
WobB	Williamstown-Crosier loams, 1 to 5 percent slopes
WoaC2	Williamstown loam, 5 to 10 percent slopes, eroded

LaPorte County (1982): The LaPorte County Soil Survey, joining to the west, will accept the following St. Joseph County map units. The correlation document for LaPorte County will be amended at this time. A record of the changes is recorded on soil maps and copies will be filed in LaPorte County case file at the Headwaters MLRA Soil Survey Project Office.

The map units that will be added to **LaPorte County** Soil Survey are:

AahAK	Abscota loamy sand, 0 to 2 percent slopes, occasionally flooded, brief duration
AatAN	Ackerman muck, drained, 0 to 1 percent slopes
AbhAN	Adrian muck, drained, 0 to 1 percent slopes
ApuAN	Antung muck, drained, 0 to 1 percent slopes
AxvA	Auten loam, 0 to 1 percent slopes
BmgA	Blount silt loam, 0 to 2 percent slopes
BshA	Brady sandy loam, 0 to 1 percent slopes
BteA	Brems loamy sand, 0 to 1 percent slopes
CmbAI	Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration
CnbB	Coloma sand, 2 to 5 percent slopes
CnbC	Coloma sand, 5 to 10 percent slopes
CrrA	Coupee silt loam, 0 to 1 percent slopes
EchAN	Edwards muck, drained, 0 to 1 percent slopes
GczA	Gilford sandy loam, 0 to 1 percent slopes
HfbAN	Henrietta muck, drained, 0 to 1 percent slopes
HkkA	Hillsdale sandy loam, 0 to 1 percent slopes
HkkB	Hillsdale sandy loam, 1 to 5 percent slopes
HkpC2	Hillsdale-Tracy sandy loams, 5 to 10 percent slopes, eroded
HkpD2	Hillsdale-Tracy sandy loams, 10 to 18 percent slopes, eroded
HtbAN	Houghton muck, drained, 0 to 1 percent slopes
HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
MhaA	Maumee loamy fine sand, 0 to 1 percent slopes
MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
MouA	Milford silty clay loam, 0 to 1 percent slopes
MtsB2	Morley silt loam, 2 to 6 percent slopes
MtsC2	Morley silt loam, 6 to 12 percent slopes
OlcA	Oshtemo sandy loam, 0 to1 percent slopes
OlcB	Oshtemo sandy loam, 1 to 5 percent slopes
QuiA	Quinn loam, 0 to 1 percent slopes
QujA	Quinn sandy loam, 0 to 1 percent slopes
SnlA	Southwest silt loam, 0 to 1 percent slopes
RenA	Rensselaer mucky loam, 0 to 1 percent slopes
ReyA	Rensselaer loam, 0 to 1 percent slopes
RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
RopC2	Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded
RopD2	Riddles-Oshtemo fine sandy loams, 10 to 18 percent slopes, eroded
TmpA	Tracy sandy loam, 0 to 1 percent slopes
TmpB	Tracy sandy loam, 1 to 5 percent slopes
TmpC2	Tracy sandy loam, 5 to 10 percent slopes, eroded
TmpD	Tracy sandy loam, 10 to 18 percent slopes
TnwA	Troxel silt loam, 0 to 1 percent slopes
TxuC	Tyner loamy sand, 5 to 10 percent slopes
TxuD	Tyner loamy sand, 10 to 18 percent slopes

Marshall County (1980): The Marshall County Soil Survey, joining to the south, will accept the following St. Joseph County map units. The correlation document for Marshall County will be amended at this time. A record of the changes is recorded on soil maps and copies will be filed in Marshall County case file at the Headwaters MLRA Soil Survey Project Office.

The map units that will be added to **Marshall County** Soil Survey are:

AatAN	Ackerman muck, drained, 0 to 1 percent slopes
AbhAN	Adrian muck, drained, 0 to 1 percent slopes
AbhAU	Adrian muck, undrained, 0 to 1 percent slopes
ApuAN	Antung muck, drained, 0 to 1 percent slopes
BshA	Brady sandy loam, 0 to 1 percent slopes
BuuA	Brookston loam, 0 to 1 percent slopes
CnbB	Coloma sand, 2 to 5 percent slopes
CnbC	Coloma sand, 5 to 10 percent slopes
CvdA	Crosier loam, 0 to 1 percent slopes
CvdB	Crosier loam, 1 to 4 percent slopes
DcrA	Del Rey silty clay loam, 0 to 1 percent slopes
GczA	Gilford sandy loam, 0 to 1 percent slopes
HfbAN	Henrietta muck, drained, 0 to 1 percent slopes
HtbAN	Houghton muck, drained, 0 to 1 percent slopes
HtbAU	Houghton muck, undrained, 0 to 1 percent slopes
JaaAK	Jamestown silt loam, 0 to 1 percent slopes, occasionally flooded, brief duration
MfrAN	Madaus muck, drained, 0 to 1 percent slopes
MhbA	Maumee mucky loamy fine sand, 0 to 1 percent slopes
MmdC3	Miami clay loam, 5 to 10 percent slopes, severely eroded
MouA	Milford silty clay loam, 0 to 1 percent slopes
MvhAN	Moston muck, drained, 0 to 1 percent slopes
MwzAN	Muskego muck, drained, 0 to 1 percent slopes
OlcA	Oshtemo sandy loam, 0 to 1 percent slopes
OlcB	Oshtemo sandy loam, 1 to 5 percent slopes
OlcD	Oshtemo sandy loam, 10 to 18 percent slopes
PaaAN	Palms muck, drained, 0 to 1 percent slopes
RenA	Rensselaer mucky loam, 0 to 1 percent slopes
ReyA	Rensselaer loam, 0 to 1 percent slopes
RopA	Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes
RopB	Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes
RoqC2	Riddles-Metea complex, 5 to 10 percent slopes, eroded
SdzA	Selfridge-Crosier complex, 0 to 1 percent slopes
SdzaB	Selfridge-Brems loamy sands, 1 to 4 percent slopes
TxuB	Tyner loamy sand, 1 to 5 percent slopes
TxuC	Tyner loamy sand, 5 to 10 percent slopes
WcnAI	Waterford loam, 0 to 2 percent slopes, frequently flooded, long duration
WoaA	Williamstown loam, 0 to 1 percent slopes
WoaB2	Williamstown loam, 1 to 5 percent slopes, eroded

Starke County (1982): The Starke County Soil Survey, joining to the southwest, will accept the following St. Joseph County map units. The correlation document for Starke County will be amended at this time. A record of the changes is recorded on soil maps and copies will be filed in Starke County case file at the Headwaters MLRA Soil Survey Project Office.

The map units that will be added to **Starke County** Soil Survey Are:

AbhAN	Adrian muck, drained, 0 to 1 percent slopes
BsxA	Brems-Morocco loamy sands, 0 to 1 percent slopes
BteA	Brems loamy sand, 0 to 1 percent slopes
CnbB	Coloma sand, 2 to 5 percent slopes
CnbC	Coloma sand, 5 to 10 percent slopes
GczA	Gilford sandy loam, 0 to 1 percent slopes
HtbAN	Houghton muck, drained, 0 to 1 percent slopes
MhaA	Maumee loamy fine sand, 0 to 1 percent slopes
TxuB	Tyner loamy sand, 1 to 5 percent slopes
TxuC	Tyner loamy sand, 5 to 10 percent slopes